Aid Commitments and Strategic Behavior

Game-theoretic explanations of donor stinginess

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Summary

Donor countries have a poor track record of meeting their foreign aid commitments. Yet the discrepancy between aid commitments and actual delivery of aid has received little scholarly attention. Traditionally, studies of aid allocation have assumed that donors provide an amount of aid that they deem satisfactory. In this thesis, I explore the possibility that the current lower-than-promised quantities of aid may be *unsatisfactory* for donor countries, i.e., that they would prefer an alternative state of the world with higher aid levels. Specifically, I consider how strategic interaction can lead donors to give less aid than they would ideally prefer.

Using game theory, I find two main reasons for why a donor may give less aid than it would ideally prefer: 1) a donor may only want to provide aid on the condition of certain behavior by the recipient. If the donor believes or experiences that the recipient does not conform to this behavior, the donor may restrict aid even though it would ideally prefer to give more; 2) donors may see aid as a contribution to a public good, and be tempted to free ride on the efforts of each other. If the voluntary production of the good is Pareto suboptimal and effective enforcement mechanisms are absent, the resulting quantity of aid is unsatisfactory for the donor countries.

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Chapter 1 Introduction

1.1. Objective

Following the declaration of the Millennium Development Goals in 2000, the Monterrey Consensus on financing for development was established in 2002. As part of this consensus, all developed countries pledged to contribute 0.7 percent of gross national income (GNI) to official development assistance (ODA)—the 0.7 target.[1]

Despite the promises, only five countries currently meet the 0.7 target;[2] on average, high-income countries contribute only 0.47 percent of GNI to ODA. In real terms, the shortfall adds up to over 150 billion dollars (DAC 2010b). In 2004, Jan Egeland, then UN Under-Secretary General for Humanitarian Affairs, chose these words to characterize the aid efforts of most donor countries:

> "[T]he foreign assistance of many countries now is 0.1 or 0.2 percent of the gross national income, I think that is stingy, really, […] I don't think that is very generous" (CNN 2004).

This thesis is about why donor countries do not deliver on their aid quantity commitments.

1.2. Research question

Why do donors not honor their aid commitments? One explanation is that donors may not actually *want* to fulfill their aid promises, i.e., that they are happy with the status quo of moderate quantities of aid. In this view, lofty aid goals are merely window dressing, and not a reflection of actual preferences. This seems to be the default explanation for the lack of compliance with aid targets (see section 1.3).

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[1] To be precise they agreed on making "concrete efforts towards the target of 0.7 percent of Gross National Product (GNP) as ODA" (UN 2002: 14). Gross National Product (GNP) is equivalent to Gross National Income (GNI), bar a few technicalities. Today, the convention is to use GNI. For a more thorough discussion of the 0.7 target, see section 2.4.1.

[2] These are Denmark, Luxembourg, the Netherlands, Sweden, and Norway. The numbers for 2010 are not in yet, but it looks like Belgium might join the group of countries that meet the 0.7 target this year (EU 2010: 16).

Another, perhaps more interesting possibility is that donors see the current situation as unsatisfactory, i.e., that they would prefer an alternative state of the world with higher aid levels. In this thesis, I explore the possibility that not meeting aid commitments may be undesirable for donor countries. My research question is as follows:

How can the current situation with lower-than-promised levels of aid be unsatisfactory for donor countries?

1.3. Literature review

The literature on donor behavior has primarily been concerned with why donors give aid, and to whom. The discrepancy between the promises and the actions of donor countries has received little scholarly attention. To my knowledge, no existing studies consider systematically how donors view own and other donors' lack of compliance with aid commitments. In this section, I review the existing literature on donor behavior and find that it lends support to the notion that moderate levels of aid is a satisfactory outcome for most donors.

Broadly speaking, research on donor behavior consists of a theoretical and an empirical branch. Within the empirical branch, large-N statistical studies have mostly focused on how donors allocate a pre-determined quantity of aid (e.g Alesina & Dollar 2000; McGillivray 2003; Berthèlemy 2005), and—to a much lesser degree—on what determines aid efforts (e.g Round & Odedokun 2004). Case studies of individual donors have usually considered what factors shape particular aid policies (e.g Hoebink & Stokke 2005). In all, the empirical branch offers little guidance as to how donors view the state of affairs regarding aid quantities.

Theoretical research on donor behavior has primarily been concerned with the *motivation* for giving aid. These studies are more relevant to this thesis as they provide a framework for understanding how donors view foreign aid. In this section, I review the theoretical literature on donor behavior and contrast it with empirical findings. The results are summarized in sub-section 1.3.3.

1.3.1 Why give? – The theoretical foundations of foreign aid

Why do states provide aid to other states? According to Cato Seiglie (1999: 207) "[t]he main objectives for providing foreign aid […] have been: 1) strategic, 2) economic and 3) humanitarian". It is important to note that most donors are motivated by a mixture of these objectives, although the "the particular mix [differs], often sharply, between donors" (Riddell 2007: 92).

We begin with strategic motivation. It is often claimed that aid is widely used by donors to pursue political objectives (e.g. Sogge 2002; Tarp & Hjertholm 2000). Stephen Browne (2006) even argues that aid is a proxy of a new form of imperialism. In this view, foreign aid is primarily a foreign policy tool.

How can foreign aid promote national interests? One of the first to provide a comprehensive framework for understanding aid as a policy instrument was Hans Morgenthau. In his article *A Political Theory of Foreign Aid* (1962), he distinguishes between three ways foreign aid can pay strategic dividends.

First, aid can be in the form of military assistance to allies, the benefits of which are obvious. Second, the transfer of foreign aid can be an elaborate form of bribery, with which the donor buys political advantage from the recipient. Finally, aid can take the form of prestige aid; designed to enhance the standing of both the donor and the recipient on the international scene (Morgenthau 1962: 301-304).

If the strategic potential of foreign aid is obvious, the economic motivation is less clear. The standard economic model of aid is a transfer of welfare from one agent to another, entailing a net loss of welfare for the donor and a net gain for the recipient. In other words, the donor is worse off and the recipient is better off after the transfer. This is clearly a good deal for the recipient, but one is left wondering "why the donor should ever make such a transfer" (Kanbur 2006: 1569).

Economists have identified several mechanisms that can improve the economic outcome for donors (Kanbur 2006: 1570-72). Economic spillover effects are one example. In an interdependent world, both positive and negative externalities can have far-reaching consequences. Presumably, aid can foster the first kind while preventing the other. Another possibility is the tying of aid in order to boost certain sectors of the

donor's own economy. Tied aid can only be used to buy certain types of products, and exclusively products from the donor country. In effect, aid tying is "a way of redistr ibuting income within the donor country" (Kanbur 2006: 1572). However, foreign aid is hardly a lucrative investment. Although aid can prevent negative spillover effects and aid tying can remedy the loss of donor welfare, the pure economic incentives to provide aid seem small.

The final type of motivation to consider is altruism, i.e., that the increased well-being of the recipient in itself motivates donors to give aid. It is often assumed that altruism is part of the rationale for giving aid. In his influential book *Moral Vision in International Politics*, David Lumsdaine (1993: 3) argues that foreign aid is a "response to world poverty which arose mainly from ethical and humane concerns". As he points out, the concept of foreign aid was virtually nonexistent before 1949, and altruism is the only reasonable explanation of why states suddenly started giving away financial resources to other countries—often through international institutions over which they had little influence. Thus, the assumption that altruism can form part of a donor's utility function is not unrealistic.

The theoretical literature on donor motivation allows for some conclusions. First, of the three kinds of motivation considered, economic motivation seems to offer the weakest incentives to give aid. If aid budgets were decided on economic grounds alone, they could very well be non-existent. Second, there are several possible strategic uses for aid. Consequently, a good deal of foreign aid can be expected to be given to promote national interests of various kinds. Finally, it is not unreasonable to assume that at least some aid is motivated by altruism.

1.3.2 To whom to give? – The allocation of foreign aid

Based on the theoretical discussion in the previous sub-section, we can expect aid to be allocated primarily out of strategic and altruistic concerns. The exact mixture of these two types of motivation will likely vary from donor to donor. In this sub-section, I look at how motivation influences donor behavior; in particular, how it affects a donor's generosity.

Who would be more generous—a strategic or an altruistic donor? Clearly, a purely altruistic donor would have very strong incentives to provide aid (assuming that aid increases the utility of the recipient). The generosity of a strategic donor, on the other hand, would depend on to what degree foreign aid is an effective tool for promoting national interests.

The efficacy of strategic aid

The efficacy of foreign aid as a policy instrument depends on both the situation at hand and the donor's underlying strategic goals. As an example of both the merits and shortcomings of strategic aid, consider the case of Japan.

In the 1980s, Japan aspired to become an "aid great power", relying on aid to achieve foreign policy goals. Reviewing this approach, Yasutomo (1989: 500) concluded that aid had been an "effective diplomatic tool" for Japan, and that it had played a major part in restoring Japans position in Asia. A more recent assessment, however, modifies the picture by pointing to the failures of containing the military expenditures of China and North Korea, two of the biggest recipients of Japanese aid (Kuramoto 2007: 21).

In general, studies have found mixed support for the claim that aid is an effective foreign policy tool. However, evidence suggests aid is good for achieving certain objectives. Palmer *et al.* (2002) claim that aid is most useful for change-seeking purposes; a notion that fits nicely with Japans success at re-branding itself in Asia. One particular topic that has received much attention is whether foreign aid can buy UN votes. Examining UN voting records, Dreher *et al.* (2008: 157) find that "US aid has indeed bought voting compliance", but they do not find this pattern with other G7 countries.

In sum, although foreign aid is, to some degree, a "weapon in the political armory of the nation" (Morgenthau 1962: 309) it is uncertain how effective a weapon it is. It seems reasonable to expect that, other things being equal, the more emphasis a donor places on strategic gains from foreign aid the weaker its incentives to give aid will be, compared with donors who are motivated by altruism.

Strategic vs. altruistic motivation I: Generosity

Donor generosity is an understudied phenomenon. To my (and their) knowledge, only Round and Odedokun (2004) have undertaken a comprehensive, cross-national study of what determines aid effort. They do find a link between altruism and aid efforts: donors with "pro-poor" domestic policies and egalitarian income distributions tend to be more generous (measured as ODA percentage of GNI) than other donors (Round & Odedokun 2004: 307).

Another way of assessing the theoretical expectation that altruism increases generosity is to use aid allocation as a proxy for motivation. One could expect an altruistic donor to give aid based on need, while strategically motivated donors could be expected to prioritize recipients within their "sphere of influence", for instance neighbors or political and military allies. We can then check if donor countries with an altruistic allocation pattern differ from donors with a strategic allocation pattern when it comes to aid effort.

In Table 1.1, 14 countries are classified according to how they allocate their aid. Countries that target their aid chiefly to poverty reduction are labeled altruistic. Conversely, countries that primarily use aid as a tool for achieving other objectives are labeled strategic. Finally, the group of countries with an ambiguous allocation pattern is labeled mixed. The classification is based on an overview of studies of aid allocation given by Riddell (2007: 96-98). I have only included countries that have received enough scholarly attention to be classified.

Table 1.1 shows that the three groups differ markedly in generosity. On average, altruistic donors have an ODA/GNI ratio of .77, while the corresponding number for donors motivated by strategic interests is .22; a difference of .54 percentage points. This result, like the findings of Round & Odedokun (2004), provides some support for the stylized notion that altruism increases generosity.

Table 1.1: Donor motivation and generosity

	Altruistic	Mixed	Strategic
ODA/GNI ratio	.77	.33	.23

Altruistic: Sweden, the Netherlands, Norway, Denmark and Finland.
Mixed: The UK, Portugal, Spain, Belgium and Canada
Strategic: The US, Japan, Australia and New Zealand
Source: DAC 2010b.

Strategic vs. altruistic motivation II: Proliferation

Are most donors strategic or altruistic? All donors display elements of both strategic and altruistic motivation in their aid giving. Since the end of the Cold War, the balance has probably shifted in the favor of altruistic motivation. However, in general, it is not controversial to argue that "the underlying rationale of using aid to promote donor countries' strategic interests is still very much alive. Instead of allocating their aid based on where it is most needed, rich countries often favor recipients that are of direct political or economic interest to them" (Hirvonen 2005).

In fact, in a highly influential study, Alesina and Dollar (2000: 55-56), conclude that *all* the major donors generally base their aid allocation on strategic interests. This conclusion has later been modified, especially by McGillivray (2003) and Berthélemy (2005), but the impression that foreign aid is first and foremost a tool for promoting national interests still stands (see Riddell 2007: 94,98).

1.3.3 Are moderate levels of aid satisfactory for donor countries?

The existing literature on donor behavior leaves us with three general conclusions. First, donors can have both strategic and altruistic motivations for giving aid. Second, donors that are motivated primarily by altruism are generally more generous than donors that emphasize strategic gains. Third, strategic motivation is more prolific than altruistic motivation.

These findings indicate that low quantities of aid may be a satisfactory outcome for most donors. In this view, donors may say they want to provide more aid, but that does not reflect their actual preferences. A logical continuation is that if donors were

more altruistic, then actual delivery of aid would be more in line with the promises made.

Lack of altruism is often identified as the main obstacle to raising aid levels. When John W. McArthur, manager of the UN Millennium Poject, pleads rich countries to "contribute their fair share" (McArthur 2005), or when Nobel laureate Jeffery Sachs demands that the United States act on their "obligations to the world" (Sachs 2004: 127), the underlying idea seems to be that if rich countries were less self-interested, they would give more aid.

The contribution of this thesis is to explore the possibility that low levels of aid might be an unsatisfactory outcome for donors. A novel thing about this approach is that it shifts the focus from agent to structure by considering how the circumstances in which the donors operate might reduce aid flows, instead of focusing solely on properties of the donors themselves.

1.4. Research design

I use game theory to address my research question. This approach differs from the conventional way of studying donor behavior that has tended—through either statistical models or case studies— to focus on the determinants of donor preferences. In game theory, the preferences of the agents are determined exogenously. Instead, the focus is on *outcomes*; how a given outcome relates to other possible outcomes and how it came to be realized.

Broadly speaking, I have made two important methodological choices: (i) to formalize the analysis and (ii) to use game theory. In this section, I briefly discuss these choices.

1.4.1 Formal modeling

As a tool for analyzing social phenomena, formal models exhibit certain distinct characteristics. Most notable are their rigid demands on precision. A formal model states the relationship between the various components of a situation in mathematical form, allowing us to draw clear and unambiguous conclusions (Snidal 2004: 228).

Obviously, explaining or predicting human behavior can never be done with mathematical precision. Hence, formal models have limited explanatory power in the study of, for instance, politics. However, they are excellent tools for theoretical enquiry as they demand the researcher to be precise and make his or her assumptions explicit (Snidal 2004: 231-237).

My motivation for formalizing the analysis is based on the nature of the research question. First, the aim of this thesis is to develop an argument about donor behavior. In this endeavor, clarity and logical consistency are crucial, to which ends formalization is a useful tool (Hovi & Rasch 1996: 96). Second, comparing possible outcomes is essential for addressing the research question. Formalized models are good instruments for doing counterfactual analysis of this kind in a systematic fashion (Snidal 2004: 237).

A common criticism of formal models is that they are "unrealistic". However, all models are unrealistic in the sense that they do not offer a complete description of the part of reality under consideration. In the social sciences, simplification is not only unavoidable, but also, to some degree, desirable (Hovi & Rasch 1996: 110). A better criterion to judge models by is whether they contribute to the understanding of the phenomenon at hand. The real danger is that formalization becomes an end in itself, and mathematical elegance displaces substantive interpretation as the main focus (Hovi & Rasch 1996: 100-101). Throughout this thesis I consistently use empirical examples to show how the formal analysis relates to the real world.

1.4.2 Game theory

Game theory is a theory of interaction between rational actors (Hovi 2008: 11). Hence, game-theoretic models are appropriate in cases where "each actor's pursuit of her goals depends on the behavior of others" (Milner 2004: 270). In effect, the use of game theory is an assumption that interaction is important in the situation under consideration. In the case of donor behavior, this assumption may not always be valid.

In some cases, it is obvious that donor behavior is influenced by strategic interaction, most notably with a recipient country. However, in other situations, looking at donor decisions as strategic choices is not unproblematic. One such case considered in

this thesis is the determination of the size of the aid budget (see chapter 4, section 4.2 for a discussion).

The motivation for using game theory in this thesis is twofold. First, game theory offers a fresh analytical perspective on situations that have largely been analyzed with other tools. Second, game-theoretic models are very useful for comparing and explaining how possible outcomes can be realized, i.e., sustained as an equilibrium. By modeling behavior both on and off the equilibrium path, such models can give us an idea of under which conditions different end states will materialize.

General assumptions

In game theory, it is common to make several underlying assumptions. First, game-theoretic models almost always assume that the agents involved are rational. The exact meaning of rationality is somewhat debated (see Hovi 2008: 17-21). However, simply put: "[t]he rationality assumption holds that actors pursue their goals efficiently with the options available to them" (Snidal 2004: 247).

It is important to note that "the goals" are always to maximize own utility. Intuitively it would seem that only selfish actors would fit this criterion. However, rationality places no requirements on the utility function, which can consist of both selfish and unselfish interests (Hovi 2008: 17-21). The rationality assumption simply prohibits actors from taking actions that go against their own interests, whatever they might be.

The rationality assumption is a substantive assumption about human behavior, and as such it has clear shortcomings. First, as Jon Elster (1989: 28) points out: "irrationality is quite widespread". Second, maximizing utility is clearly not the only driving force behind social conduct. Thus, the rationality assumption should not be interpreted as a complete account of human behavior. Nonetheless, assuming rationality is a fruitful point of departure for studying social phenomenon. After all, it is not unreasonable to assume that *most* people act rationally *most* of the time (Hovi 2008: 20).

Another common assumption is that of unitary actors. In the models presented in this thesis, the agents are states.[3] Since states are complex organizations—consisting of many individuals with different and often contradictory beliefs and interests—

[3] One exception: in chapter 5, I model a game between a state and a regime.

treating them as unitary is problematic. Nonetheless, assuming that states are unitary actors is common in models of international relations. Unlike the rationality assumption, the unity assumption is made solely to simplify the analysis. As Scott Barrett (2003: 54) notes: "This assumption [that states are unitary actors] is made purely for reasons of convenience. It is an assumption that we know is untrue". Something is surely lost with this assumption, but the gain is models that are much easier to interpret.

Finally, it is usually assumed that all players have common knowledge of the structure and the rules of the game, and the rationality of the other players (Gates & Humes 1997: 9). Once again, this assumption is made more for analytical convenience than for representing an accurate description of the actors.

Aid games

Generally speaking, a game consists of five elements: (i) a set of players, (i) a set of available actions for each player, (iii) a set of possible outcomes, (iv) a characterization (payoff) of each outcome for each player, and (v) the rules of the game (Hovi 1998: 44).

The first task is to identify the players. Generally speaking, there are two types of agents on the international aid scene: donor states and recipient states.[4] Thus, a donor's decision concerning the quantity of aid to provide may be influenced by (i) the actions of the recipient(s) or (ii) the actions of other donors.[5] In this thesis, I look at two types of aid games: donor-recipient games and donor-donor games.

Outcomes, payoffs, and the rules of the game—including the sequence of moves and the information available to each player when making a decision—vary across the games in this thesis. However, they do have one common feature. Since both donors and recipients are sovereign states, I assume that they are unable to make binding commitments to each other. Consequently, all the games in this thesis are non-cooperative (Hovi 1998: 4).

[4] I conveniently ignore the presence of NGOs, individuals and private companies.
[5] A third possibility, that donor behavior may be influenced by the interaction between recipients will not be considered in this thesis.

1.5. Plan

The thesis is structured as follows. Chapter 2 looks at the development of the current international aid regime, with a special focus on trends in donor generosity. In particular, it reviews the track record of compliance with the international 0.7 target and the current state of affairs regarding aid levels.

Chapter 3 considers donor-recipient games. The main idea of this chapter is that a donor may want to give aid only on the condition of certain behavior from the recipient and that lack of compliance from the recipient can hinder the aid flow. In this chapter, I draw heavily on the rich literature on aid conditionality.

Chapters 4 and 5 consider donor-donor games. In chapter 4, I present the argument that foreign aid can be seen as a public good, the quantity of which could be Pareto suboptimal as long as donors contribute non-cooperatively. The first part of this argument, that foreign aid is a public good, goes back to Olson and Zeckhauser (1966). The conditions under which the provision of this good is Pareto suboptimal are novel to this thesis.

In chapter 5, I look at how agreements between donors on raising aid levels can fail to induce compliance. Assuming that the *ex ante* quantity of aid is Pareto suboptimal (see chapter 4), failure to sustain compliance in such agreements represent an unsatisfactory outcome for donor countries. Scholars have paid scant attention to the strategic aspect of inter-donor aid treaties, but the rich literature on international cooperation in general (and environmental agreements in particular) provides a useful analytical framework.

This thesis offers two main explanations of donor stinginess. With respect to aid commitments between donors and recipients, the models in chapter 3 should give an idea of when an otherwise willing donor will restrict aid to a recipient. With respect to international commitments to raise aid levels—such as the 0.7 target—the models in chapters 4 and 5 should illustrate how the structure of the aid regime, not only lack of altruism, can lead to lower-than-promised levels of aid.

Chapter 2 Empirical background

2.1. Purpose and plan

The purpose of this chapter is to establish key concepts such as "foreign aid" and "donors", and to give an idea of the development of the international aid system. The chapter is divided into three parts. First, in sections 2.2 and 2.3, I consider exactly what constitutes foreign aid and donor states. The second part (section 2.4) presents a brief overview of the history of international cooperation on foreign aid, and tracks the origins of the 0.7 aid target. The last section is devoted to aid levels. In this section, I consider the seemingly self-contradicting development that aid quantities have risen while, at the same time, donors have become less generous. Finally, I discuss whether the 0.7 target has had any effect on donor behavior.

2.2. What is foreign aid?

Broadly defined, foreign aid consists of all resources, including loans at concessional rates, transferred by donors to recipients.[6] This definition does not mention anything about *who* the donors and recipients are. In this thesis, I focus on *official* aid flowing from donor states to recipient states, either directly (bilateral aid) or through international institutions (multilateral aid).[7]

Due to the vagueness of the term foreign aid, more narrow definitions are usually applied in the official discourse on aid. The terms *development aid* and *development assistance* are widely employed expressions referring to the part of foreign aid that is devoted to development and increasing human welfare in poor countries; in other words, what most people would associate with aid (Riddell 2007: 17-18). The line between development assistance and other forms of foreign aid has been the focus of much debate.

[6] In this thesis *aid* is used synonymously with *foreign aid*.
[7] In particular, this delimitation excludes private charity and NGOs.

Probably the most comprehensive effort to define what constitutes development aid has been undertaken by the Development Assistance Committee (DAC) of the Organization of Economic Cooperation and Development (OECD). Right from its conception, DAC was concerned with how to separate development aid from other transfers of resources in order to compare aid efforts across donor countries. It launched its first annual review of *DAC Members´ Development Assistance Efforts and Policies* in 1962, but it was not until 1969 that the members agreed on the concept of Official Development Assistance (ODA) (Fuhrer 1994: 15, 21).

It would take another three years of debating before DAC settled on the definition of ODA that it still employs today. The definition sets certain criteria for a resource flow to be considered development assistance (see Box 2.1).

Box 2.1: Definition of Official Development Assistance

ODA consists of flows to developing countries and multilateral institutions provided by official agencies, including state and local governments, or by their executive agencies, each transaction of which meets the following test: a) it is administered with the promotion of the economic development and welfare of developing countries as its main objective, and b) it is concessional in character and contains a grant element of at least 25 percent (calculated at a rate of discount of 10 percent) (Fuhrer 1994: 24).

Although this definition brought some orderliness to the measurement of aid flows, it is by no means uncontroversial. The main problem is that it is a purpose-based definition: resource flows are categorized as development assistance if their "main objective" is promotion of economic development and welfare (Box 2.1). However, finding the main objective behind a transfer of resources is no easy task. In theory this is to be decided by rigorous and objective evaluation by DAC, but official ODA figures from donors are seldom questioned (Riddell 2007: 21).

Throughout this thesis, I often use the terms "aid" and "foreign aid" synonymously with ODA as defined by OECD. However, I do not operate with any strict definition of what constitutes foreign aid, and the term generally refers to all resources transferred through official channels from donor countries to recipient countries, regardless of motivation and purpose.

2.3. Who gives foreign aid?

The international aid system is a hotchpotch of organizations and actors that has developed "incrementally, without evident systematic intent, over several devades" (Rogerson et al. 2004: 1). The result is a rather complex system:

> The international aid system consists of a loose aggregation of more than 150 multilateral agencies, including the UN system agencies and the global and regional financial institutions […], 33 bilateral agencies which are members of OECD/DAC, at least 10 non-DAC governments providing significant sums of ODA, and a growing number of vertical global funds (Burall et al. 2006: 4).

Adding to the complexity is the fact that new donors are emerging—often without ending to be recipients. These include the new members of the European Union, emerging global powers such as the BRIC countries, and other countries that are discovering aid as a foreign policy tool.[8] Usually grouped together with the emerging donors are traditional donors that are not members of the OECD, including a number of Arab states (Grimm et al. 2009: 9-11).

The emerging donors are making their mark on the international aid scene. China, in particular, has captured the attention by explicitly pursuing an aid policy based on non-interference and non-conditionality (Grimm et al. 2009: 19). However, it is still the case that most aid is provided by "Western" donors, meaning (primarily) the OECD/DAC countries, which account for roughly 90% of global aid flows (Grimm et al. 2009: 9). The key players in this group are the United States, Japan, the United Kingdom, France and Germany. Together, these countries account for about 66% of all ODA provided by the DAC donors (Riddell 2007: 55).

In this thesis, I mainly focus on donors within what has been labeled the "Western consensus".[9] In particular, I focus on the members of OECD/DAC. In general, the DAC countries are what I have in mind when using generic expressions such as "rich" and "developed" countries.

[8] The newness of some of the new donors can be debated. For instance, both India and China have had foreign aid programs for decades.
[9] See appendix for a list of "Western donors"

2.4. International cooperation on foreign aid

Foreign aid is a relatively new concept, and usually recognized as a post-World War II phenomenon. The birth of modern foreign aid is popularly attributed to the Marshall Plan, through which the United States aided the recovery of a war torn Europe. However, this is a bit misguided. The Marshall Plan was certainly an extraordinary and unprecedented undertaking, but governments had already been giving foreign aid for a long time at that point.

Riddell (2007: 25) argues that the most important aspect of the Marshall Plan was not the giving of aid per se, but how it was done: "by donors pooling their resources together, by coordinating their aid efforts, under the United Nations if possible; and by insuring that the aid given would enable recipients to use it in ways they saw fit". The Marshall Plan laid the groundwork for the institutionalizing of the international aid system; a process that gathered momentum in the 1950s.

In 1960, the United Nations declared the coming decade the "First Development Decade" (Resolution 1710). The 1960s saw the rise of a host of international aid organizations, together with a rapidly increasing number of both donors and recipients. Foreign aid was becoming an enduring aspect of international relations, and increasingly seen as a matter of international cooperation. More than any other event, the establishment of DAC was a formalization of the latter notion.

DAC is an international forum for donor governments and multilateral organizations, "working to increase not only the quantity, but also the quality of aid" (DAC 2010a). It was established in 1960 (then as DAG) to better coordinate the common aid efforts of the international donor community (Fuhrer 1994: 8-9).

Improving the burden sharing of financing development was a working goal for DAC right from the start—and a subject of much debate. In order to settle on a consensus, a comparative measure of donor generosity was needed. in 1969, the annual *DAC Chairman's Report* published, for the first time, figures on ODA as percentage of gross national product (Fuhrer 1994: 21). This measure, popularly called the "generosity ratio", would later serve as the basis for the 0.7 target.

2.4.1 The 0.7 target

Aid targets—goals for the quantity of aid donors should provide—is a recurrent theme in the history of foreign aid. Many, perhaps most, donors have set national aid targets in addition to the many international targets (see appendix). The overarching aid goal is the 0.7 target, which stipulates that developed countries should commit 0.7 percent of gross national income (GNI) to ODA.[10] The 0.7 target was first adopted by the UN General Assembly in 1970, and has later been reaffirmed a number of times. The most recent high-profile affirmation was at the 2002 International Conference on Financing for Development, which put the target in connection with achieving the Millennium Development Goals.

The origins of the 0.7 target go back to the dawn of international aid cooperation. In 1958, the World Council of Churches, which coordinated aid efforts from parishes in rich countries to parishes in poor countries, sent a statement to the United Nations urging rich countries to devote at least 1 percent of national income to grants and loans to poor countries.[11] It was favorably received, and in 1960 the UN General Assembly adopted the resolution that the total sum of capital flows from rich countries to poor countries (both official and private) should be increased to approximately 1 percent of GNI (Clemens & Moss 2005: 4).

With the total capital target of 1 percent established, there was still no consensus on what percentage should be aid. Indeed, at this point there was still no consensus on what exactly constituted aid. The first steps towards an aid target were taken at the first two meetings of the United Nations Conference on Trade and Development (UNCTAD) in 1964 and 1968. Both meetings produced background studies on the issue of aid percentage, and in the second meeting the secretariat proposed to adopt a goal of providing 0.75 % of GNP as foreign aid. The member states, however, were unable to agree on a number (Clemens & Moss 2005: 7).

[10] What is meant by the term "developed country" is far from clear as "[t]here is no established convention for the designation of "developed" and "developing" countries or areas in the United Nations system" (UNSTAT 2010). In common practice, Japan, the US, Canada, Australia, New Zealand and the Western European countries are considered "developed" (Ibid.). Being a full-fledged member of OECD/DAC, it is probably fair to add South Korea to this list as well.

[11] The Council did not provide any record for how they arrived at the 1 % figure. It is more than likely that they simply chose a round number that represented about a doubling of the current capital flows (Clemens & Moss 2005: 4).

The aid community, with the World Bank President, Robert McNamara, in front, wanted more. In order to "rejuvenate the commitment to the UNCTAD target" (Ibid.), McNamara, together with the British Minister for Overseas Development, Lord Reginal Prentice, conceived the Pearson Commission.

The establishment of the Pearson Commission is seen as a formative moment in foreign aid history. As Riddell (2007: 30) writes: "the genre, style and approach of the Pearson Report […] set the tone for subsequent international reports on aid and development". In its report, the Commission was rather explicit about its agenda:

> What was basically required of the Commission at its creation just over a year ago was that it elaborate an aid strategy based on a convincing rationale, that could be used to attack effectively the wariness of will so increasingly evident. For various reasons […] a number of the major donor countries were decreasing their foreign aid appropriations. In doing so, they were (and are) endangering the very viability of an international political idea that, until 1961, supported a rapidly increasing flow of concessional development finance from the richer to the poorer countries. (Excerpt of the Pearson Report (1969), WorldBank.org 2003).

The conclusion was equally crisp:

> We therefore recommend that each aid-giver increase commitments of official development assistance for net disbursements to reach 0.70 percent of its gross national product by 1975 or shortly thereafter, but in no case later than 1980 (Pearson et. al 1969: 148-149, cited in Clemens & Moss 2005: 8).

The 0.7 target was born. The UN adopted the 0.7% figure (without a vote) at the declaration of the Second Development Decade, in the General Assembly in 1970. It would be reiterated at the beginning of every subsequent decade in a slightly different wording. The 0.7 target was also mentioned in UN declarations at the "Earth Summit" in Rio de Janeiro (1992), the 1995 World Summit for Social Development in Copenhagen, and the 2002 World Summit on Sustainable Development in Johannesburg (Clemens & Moss 2005: 8). However, despite its long history, the 0.7 target is most famous for its connection with the Millennium Development Goals.

In 2000, "the largest gathering of world leaders in history" (UN Millenium Project 2006) adopted the UN Millennium Declaration that set eight global development targets to be reached before 2015, known as the Millennium Development Goals

(MDGs). It is an ambitious list of objectives that aim to address poverty in all its forms.

Two years later, in 2002, the UN International Conference for Financing for Development in Monterrey settled the matter of financing the MDGs, known as the Monterrey Consensus. The Monterrey Consensus deals with a long list of different sources of finance, including a strong emphasis on trade and foreign direct investment (UN 2002: 5-8). However, it is remembered, above all, for re-establishing the 0.7 target: "we urge developed countries that have not done so to make concrete efforts towards the target of 0.7 percent of gross national product (GNP) as ODA to developing countries" (UN 2002: 9).

This statement of the 0.7 target is widely held to carry more weight than the previous declarations; in part due to the larger context of the MDGs, and in part because the conference was attended by more than 50 heads of state—unlike previous meetings where only UN representatives had been present (Clemens & Moss 2005: 9). The more low key follow-up conference on financing for development held in Doha in 2008 reiterated the 0.7 target in the exact same wording (UN 2008: 12), as did the most recent UN summit on the MDGs held in 2010 (UN 2010: 29).

Whether these statements actually amount to a *commitment* to the 0.7 target is the subject of some debate. As Clemens & Moss (2005: 9) note: "[it] is notable that none of the […] international statements on the 0.7% goal amount to promise to *attain* it".[12] However, despite the weak wording, the 0.7 target has certainly taken on the characteristics of a real commitment, and rich countries are routinely criticized for not living up to it.

2.5. A brief history of aid levels

Have aid efforts risen or declined over the last fifty years? Commenting on the history of aid levels is not a straightforward undertaking. Aid efforts have both risen dramatically and experienced an uneven but steady decline since 1960, depending on your measure of choice. Figure 2.1 illustrates the development for the DAC donors.

[12] Several EU donors have made stronger commitments to the 0.7 target (see section 2.5.1).

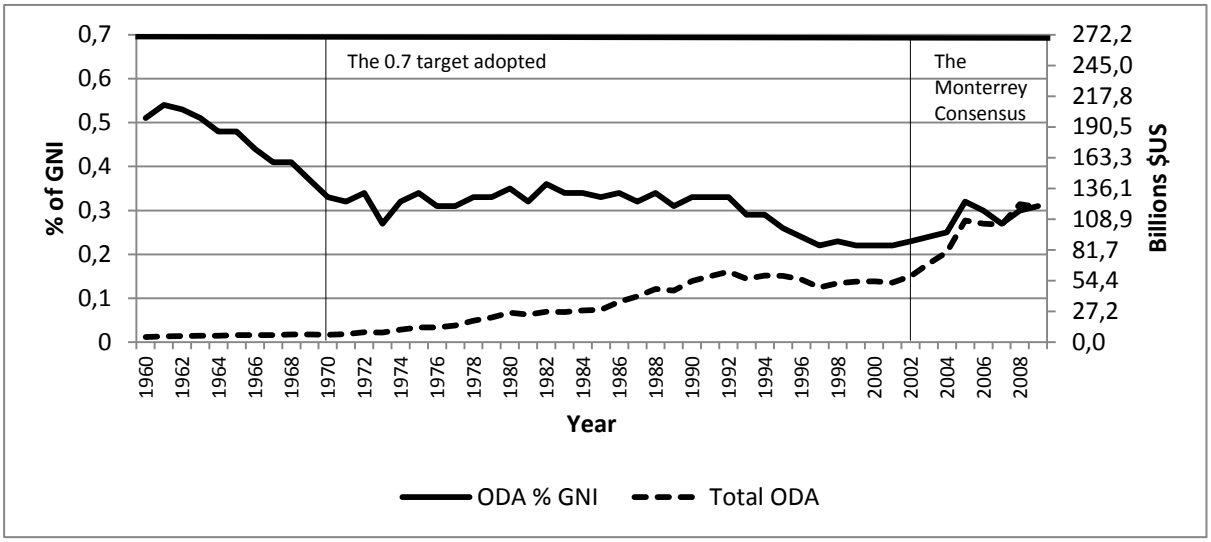

Figure 2.1: Aid levels since 1960 measured in total volume (current prices) and as percentage of total GNI.

Source: DAC 2010b

The total volume of aid measured in nominal terms has increased dramatically while the generosity ratio (ODA as percentage of GNI) has fallen slowly in intervals until the end of the 1990s when it began a sluggish recovery. This illustrates two points about the development of foreign aid. First, the big increase in aid volumes tells us that aid has become an important part of international relations. There have been some periods of stagnation and decline—most notably in the 1990s—but the overall trend is a rapid expansion of aid volumes.

Second, even though the total volume of aid has risen, ODA as share of GNI has fallen from a high of 0.54 percent in 1961, to 0.31 percent in 2009. The fall has not been monotonous. A rapid decrease in the decade spanning from 1961 to 1971 was followed by a long period of stagnation that lasted until the 1990s, when it took a new plunge; reaching its lowest in 1997 when ODA constituted only 0.22 percent of GNI. A slow increase began at the turn of the millennium, and is still going on today.[13]

It seems that donors have been providing ever more aid, while at the same time becoming less generous. Figure 2.2 shows how the shortfall between the target amount of ODA—the amount that would have been given if the DAC countries delivered on

[13] The dramatic peak in 2005 is a result of a big multilateral debt forgiveness that counts as ODA

their commitment to the 0.7 target—and the actual amount of ODA provided has risen since 1960.

The DAC donors were closest to reaching the 0.7 target in 1961, nine years before it was adopted in 1970. At that point, an increase of only 30 percent was needed. The DAC countries have never been this close again. During the 1990s, an increase of up to 200 percent would have been necessary. Currently, the DAC donors are 120 percent short of reaching the 0.7 target.

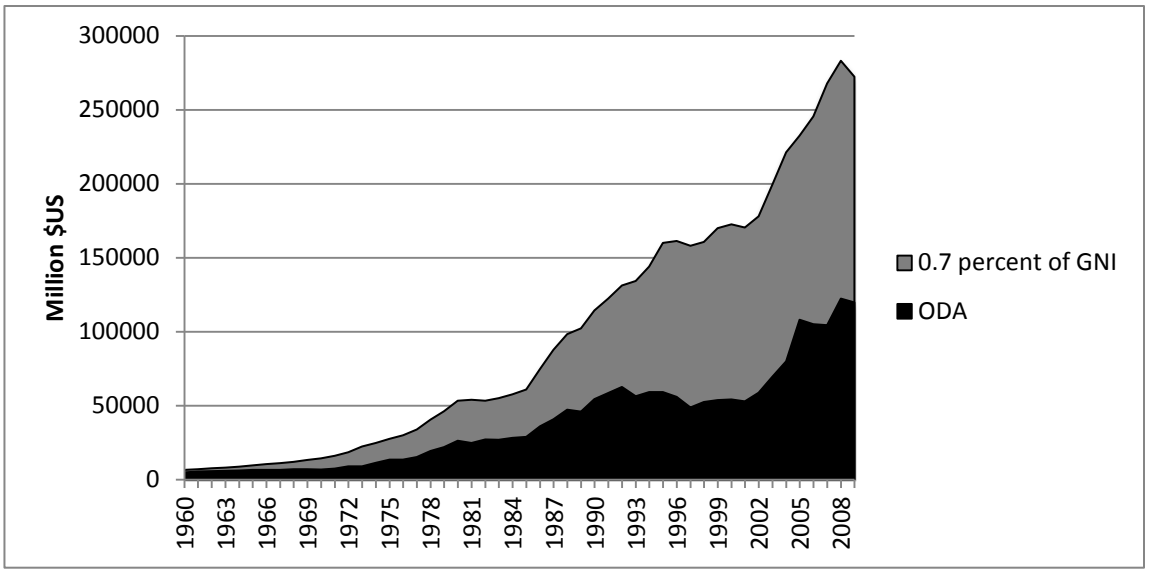

Figure 2.2: The amount of ODA provided compared with the target amount of ODA (current prices).

Source: DAC 2010b

2.5.1 Has the 0.7 target had any effect?

Figure 2.1 shows the trends that sparked the adoption of the 0.7 target in 1970. At the end of the 1960s there were distinct signs of donor weariness. The generosity ratio was falling steadily, and the growth in total aid volume had stagnated; the early enthusiasm for foreign aid was fading fast.

The 0.7 target was a response to these developments, but has it had any effect on aid efforts? It is difficult to assess. Although the 1970s saw a dramatic growth in total aid volume (from 1970 to 1980 it grew by a factor of 3.9), the generosity ratio never quite recovered to earlier levels.

Aid levels seem to be correlated more with geopolitical events than with aid agreements. For instance, in the 1990s, the 0.7 target was reiterated three times—first in the General Assembly in 1990, then at the Earth Summit in 1992, and again at the World Summit in 1995—all without any measurable effect on falling aid levels. The decline in aid efforts in the 1990s is usually understood as a post-Cold War effect; there were simply less strategic uses for foreign aid (Riddell 2007: 38).

One could argue that the reiterations of the 0.7 target during the 1990s were too low-profile to have any effect on donor behavior, and that it was not until Monterrey that the aid target experienced a proper revival. This argument seems reasonable. Monterrey, with its connection to the MDGs, created new momentum for the 0.7 target. In the period 2000-2004, the target was mentioned 584 times in the world's top 50 English-language newspapers. In contrast, the corresponding figure for 1980-84 was 45 (Clemens & Moss 2005: 11).

The effect looks tangible. The ODA/GNI ratio bounced back after Monterrey, and has risen steadily since. In the Doha Declaration on Financing for Development (the follow-up of Monterrey), the participants expressed encouragement by the fact that "some donor countries have met or surpassed the ODA target", and that others had "established timetables for fulfilling their longstanding commitments" (UN 2008: 12). It confidently announced the "recovery of ODA from its declining trend before the Monterrey Consensus" (Ibid.).

It seems beyond question that Monterrey influenced aid efforts, but this effect is probably not as great as it appears on first inspection. First, the conference that produced the Monterrey Consensus took place in March 2002 and is unlikely to have had any effects on aid budgets before 2004,[14] yet in 2002 the increase in aid levels was already well underway. This points to another culprit behind the revival of foreign aid, namely the comeback of political aid:

> [T]he most rapid increases in ODA did not begin to materialize until after the terrorist attacks of 11 September 2001 on United States soil […] when aid-giving once again become more closely intertwined with wider political agendas (Riddell 2007: 39).

[14] This is due to the fact that the aid budget for 2003 in most countries was already set at that point. In the US for instance, the President presented the budget for the next fiscal year in February.

Looking at where this new aid was directed gives an idea of how much of the rise in aid levels can be chalked up to geopolitics. Although total ODA to least developed countries (LDCs) increased by 300% from 2000 to 2008, a good deal of this increase was accounted for by Afghanistan which, in the same period, saw an surge in ODA of over 4500%. The case of Iraq is even more astonishing, from 2000 to 2008 the flow of ODA to the country increased by a factor of 116 (DAC 2010b). Thus, being invaded by the US seems like a better predicator of receiving aid than being poor.

However, aggregate ODA statistics tell only one part of the story. The effects of Monterrey, and the 0.7 target in general, are more visible on a disaggregated level. The last part of this section traces the imprints of Monterrey on particular of donors.

The European Union

One of the more concrete effects of Monterrey is to be found among European Union-donors. In 2005, following a European Commission-report on *Translating the Monterrey Consensus into practice*, the EU developing ministers laid out a road map for reaching the 0.7 target. In a much stronger wording than in the Monterrey Consensus, the EU set both a collective aid target (0.56 % of GNI by 2010) and group targets: 0.7% of GNI for its high income members, and 0.33% of GNI for members that joined the EU after 2002 (EU 2006: 18).

In addition, several high-income EU states have unilaterally committed themselves to timetables for meeting the 0.7 target. Britain, France, Finland, Ireland, Belgium and Spain are all set to reach it by 2015, while Germany, Italy and Portugal have made qualified commitments to do the same (Inter Press Service 2005). The question is of course if these promises have translated into action.

Concord, a NGO that monitors the EUs development efforts, shows a mixed picture in their most recent assessment. Several countries remain on track for reaching the interim 2010 target of 0.51%, including Belgium, Britain, and Finland. However, Germany, France, Portugal, Italy and Greece will all fall well short of the target. Spain is a curious case: it is slashing its aid budget (down by €285 million) but will still likely reach its target due to a fall in GNI (Concord 2010a: 5).

To sum up, Monterrey has played a part in making EU leaders set ambitious aid goals, and aid flows from the region are on the rise. However, it remains to be seen if these long-term commitments translate into actions.

The United States

The United States is by far the biggest donor on the international scene. If the DAC community is ever going to come close to the 0.7 target, the United States will have to bear its part of the burden. Collectively the DAC countries were $152 billion short of the target in 2009, of which $97 billion (47.1%) would have come from the US alone (DAC 2010b).

When it comes to the 0.7 target, the US has been reluctant to make binding commitments. Right from the beginning it has taken an ambivalent position on the issue by being neither a proponent nor an opponent of the aid target. The official line, which has remained unchanged since the Nixon administration, is to "support the principle of a global aid target while at the same time […] not subscribe to any specific date for attaining it" (Clemens & Moss 2005: 10).

Thus, the 0.7 target seems to have had little effect on the aid efforts of the biggest donor. Variations in the US' generosity can for the most part be attributed to other factors than international aid agreements.

The G 0.7

The clearest legacy of the 0.7 target is the G 0.7: the exclusive group of countries that meet the 0.7 target. It currently consists of five countries: Norway, Sweden, Denmark, Luxembourg and the Netherlands.[15]

Sweden and the Netherlands were the first countries to provide 0.7% of GNI to ODA, in 1975. They were joined by Norway in 1976 and by Denmark in 1978. After Denmark, it would take 22 years for another country to join the G 0.7, when Luxembourg reached the target in 2000 (DAC 2010b).

Interestingly, no country that has reached the 0.7 target after it was adopted in 1970 has let the ODA/GNI ratio fall back below 0.7%. This might very well be the biggest achievement of the 0.7 target: once a donor meets the target, it would be very noticeable if it suddenly failed to do so one year. This was not the case before 1970

[15] Belgium might be joining this group in 2010.

when, for instance, France went from providing 1.36% of GNI as ODA (the still-standing record) to 0.52% in less than a decade (Ibid.).

The establishment of the aid target has, to some degree, dichotomized aid efforts and singled out a small exclusive group of "generous" donors. This has created an opportunity for countries to distinguish themselves. Many factors likely influence the decision by the G 0.7 countries to provide considerable amounts of foreign aid. However, the lure of standing out as "generous" on the international scene created by the 0.7 target is no doubt one of them.

2.6. Summary

In this chapter, we have seen how the institutionalizing of international cooperation on foreign aid gathered momentum in the 1960s on a backdrop of increasing donor fatigue. At the end of the decade, the donor community, led by the World Bank, sought to revive aid efforts by establishing an international aid goal. Followingly, the 0.7 target was adopted by the UN General Assembly in 1970.

The 0.7 target has since been the banner under which aid advocates of all kinds have rallied. Donor countries have generally been positive to the idea of attaining the target. Actually doing so, however, has eluded most of them. Has international cooperation on foreign aid been a failure when it comes to increasing aid efforts? To some degree it obviously has. It seems that international aid agreements have not been overtly effective in increasing aid levels, which remain at the mercy of geopolitics. But as this chapter argues, they have had at least some effect.

First, the adoption of the 0.7 target in 1970 probably influenced the Netherlands, Denmark, Sweden and Norway to increase their aid budgets over the ensuing decade and to keep aid efforts high. Similarly, it is not unlikely that the allure of the 0.7 target also was a motivation for Luxembourg when it did the same in the years leading up to 2000.

Second, although the Monterrey Consensus has yet to produce any new members to the G 0.7 it brought new public attention to the 0.7 target, which probably played a part in compelling EU donors to lay out a timetable for reaching it. If at least

some of the EU donors follow through on their commitments, Monterrey has certainly accomplished something.

Still, rich countries are continuously failing to honor their aid promises, something which poses a question: why do donor countries keep reiterating aid targets and then fail to meet them? After all, for the majority of rich countries the existence of the 0.7 target only serves to make themselves look bad. Could it be that aid targets are more than lip service, and that donors actually want to increase aid levels? The next chapters in this thesis consider how aid levels might fail to increase even if donors want to give more.

2.7. Appendix

2.7.1 Donors

Table 2.1: Donors that operate within the "Western consensus".

Group	Donor	ODA (in millions, $US)	ODA/GNI
DAC*	Australia	2 761,0	0,29
	Austria	1 146.0	0,30
	Belgium	2 600,8	0,55
	Canada	4 012,5	0,30
	Denmark	2809,7	0,88
	Finland	1286,1	0,54
	France	12 430,9	0,46
	Germany	11 982,4	0,35
	Greece	607,4	0,19
	Ireland	1 000,1	0,54
	Italy	3 313,9	0,16
	Japan	9 480,1	0,18
	Luxembourg	402,7	1,01
	Netherlands	6 425,3	0,82
	New Zealand	312,6	0,29
	Norway	4 085,8	1,06
	Portugal	507,5	0,23
	Spain	6 570,8	0,46
	Sweden	4 546,1	1,12
	Switzerland	2 305,3	0,47
	United Kingdom	11 504,9	0,52
	United States	28 665,3	0,20
	Australia	2 761,0	0,29
Non-DAC (EU)	Malta	15,4	0,20
	Cyprus	40,6	0,17
	Slovak Republic	74,2	0,08
	Slovenia	71,4	0,15
	Lithuania	49,0	0,11
	Czech Republic	225,4	0,12
	Estonia	19,6	0,10
	Hungary	116,2	0,09
	Latvia	21,0	0,08
	Romania	138,6	0,08
	Poland	348,6	0,08
	Bulgaria	16,8	0,04

*Excluding South Korea, for which there are no aid data yet.

2.7.2 Aid targets

Table 2.2: Aid targets, success-rates and average generosity ratio for selected international donor groups

Group	ODA/GNI Target(s)	Success-rate*	Mean (ODA/GNI)
DAC	0.7%	22%	0.47%
EU	0.56% (collective target)	-	0.45-0.46%
EU-15 (pre-2004 EU member states)	0.51% by 2010	60%	0.48%
	0.7% by 2015	Too early to tell	
EU-12 (EU member states that acceded after 2004)	0.17% by 2010	16%	0.11%
	0.33% by 2015	Too early to tell	
* Percent of donors in the group that meet the target. Source: DAC 2010b; EU 2010.			

Chapter 3 Donor-recipient games

3.1. Purpose and plan[16]

The purpose of this chapter is to show how circumstances pertaining to the donor-recipient relationship can lead to lower quantities of aid than a donor would ideally prefer. The core question in this chapter is *what can stop a donor that wants to promote development in a recipient country from giving aid?*

Two possibilities come to mind: the donor in question may believe a) that foreign aid does not promote development, or b) that foreign aid only promotes development under certain circumstances, which are not present. If (a) is true, little or no aid is a satisfactory outcome for the donor. I briefly consider the arguments for (a) in section 3.2. However, if (b) is true, the donor might prefer that the conditions for aid effectiveness were present and more aid were given.

I consider one type of situation where (b) is true: when a donor wants to give aid on the condition of certain behavior of the recipient, and the recipient does not conform to this behavior. In section 3.3, I demonstrate how a conflict of interest regarding how to spend the aid money might lead to aid not being given, and how this could be an unsatisfactory outcome for both donor and recipient. In section 3.4, I add conditionality to the model. In theory, conditionality can solve underlying conflicts of interest in the donor-recipient relationship. However, in sections 3.4.1 and 3.4.2, I demonstrate how conditionality failure can lead us back to the outcome where no aid is given.

In section 3.5, I consider the impact of incomplete information. Allowing for private information relaxes some of the conditions found in section 3.4, and opens up new possible equilibrium outcomes with unsatisfactory low quantities of aid.

[16] The first part of this chapter is based on a paper originally written for the course STV4217, in spring 2010.

3.2. Does aid work?

Does aid work? After decades of scrutiny, this question remains unsettled and the divide between proponents and opponents of foreign aid is as deep as ever. The most aid critical argue that not only does aid not work—it is downright harmful. Dambisa Moyo, the author of *Dead Aid* (2009), does not pull her punches on the issue:

> Millions […] are poorer today because of aid; misery and poverty have not ended but have increased. Aid has been, and continues to be, an unmitigated political, economic, and humanitarian disaster for most parts of the developing world (Moyo 2009: xix).

On the other end of the spectrum are aid proponents like Jeffrey Sachs (2005), who argues for increasing aid levels based on compelling evidence of its success. Why do we have such conflicting narratives?

Part of the reason is that the impact of foreign aid is notoriously hard to measure. Moyo (2009: 46) claims that "study, after study, after study […] have shown that […] aid has had no appreciable impact on development", which is true (if you are a bit selective about your studies), but all aggregate evaluation of aid runs into several methodological difficulties.

One such difficulty is that aid, even when narrowed down to ODA, is not homogenous. Some aid, for example, is given to governments, while other aid money finances local projects directly. Furthermore, some donors give aid on conditions—anything from economic reforms to respect for indigenous rights—while others do not. In short, aid can be tailored to suit any taste. Since most of foreign aid is bilateral donors are free to disperse it as they see fit, making it hard to compare aid across donors, or time. In the end, aid given by Norway is vastly different from aid given by the United States, or even by Norway, 20 years ago.

Adding to the challenge is the question of how to measure development. In fact, there is no real consensus of what development really is. The only thing agreed upon is that it is a multidimensional, little understood, and apparently exceedingly complex process that depends on the interplay of numerous variables. Since measuring the impact of aid on this process is challenging at the national level, doing a cross-country analysis seems overtly ambitious (Riddell 2007: 174).

A case-by-case evaluation may be more appropriate, but it does not settle the question *does aid work?* There are plenty of successes and horror stories to choose from for both opponents and proponents of foreign aid (for examples see Temple 2010: 4418). This implies that we may be asking the wrong question:

> Does aid work? The problem with this question can be seen by analogy. Nobody asks whether medical science work, because the question invites an answer – yes and no – that is correct but uninformative. A more interesting question is: *when* does aid work? (Temple 2010: 4419).

Even a fierce aid critic as Moyo (2009: 76) grants that "aid programs that are actually designed to address […] critical problems […] can deliver some economic value". Hence, we can assume with some confidence that aid *can* work under the right circumstances. This has implications for understanding why donors can be reluctant to increase their aid budgets.

Let us make the (not entirely unreasonable) assumption that donor countries want to promote development in recipient countries. Increasing aid flows may not be the most efficient way of promoting development if the conditions for aid efficiency are not present. Obviously, the exact conditions for any given aid transfer to promote development will vary from case to case. In this chapter, I consider situations where the behavior of the recipient government is the impediment to the aid flow.

3.3. Conflict of interest: The basic condition

The relationship between a donor and a recipient is usually understood in principal-agent terms: the donor (principal) transfers resources to the recipient (agent) so that the recipient can accomplish the donor's objective (Paul 2006: 5). If the donor and the recipient do not agree on means and ends, this could hinder the aid flow.

To get a formal sense of the problem, consider a game with two players: Donor and Recipient.[17] Assume that the objective of Donor is to increase the welfare of the poor in the recipient country. Furthermore, assume that in order to increase the welfare

[17] Both Donor and Recipient are governments of states, but the discussion in this thesis is not necessarily valid only for intergovernmental relationships. One could easily imagine instances where Donor or Recipient is a NGO, or even a private person.

of the poor, the influx of aid money needs to be followed by tough reforms on the part of Recipient that it would rather do without.[18] The game is depicted in Figure 3.1.[19]

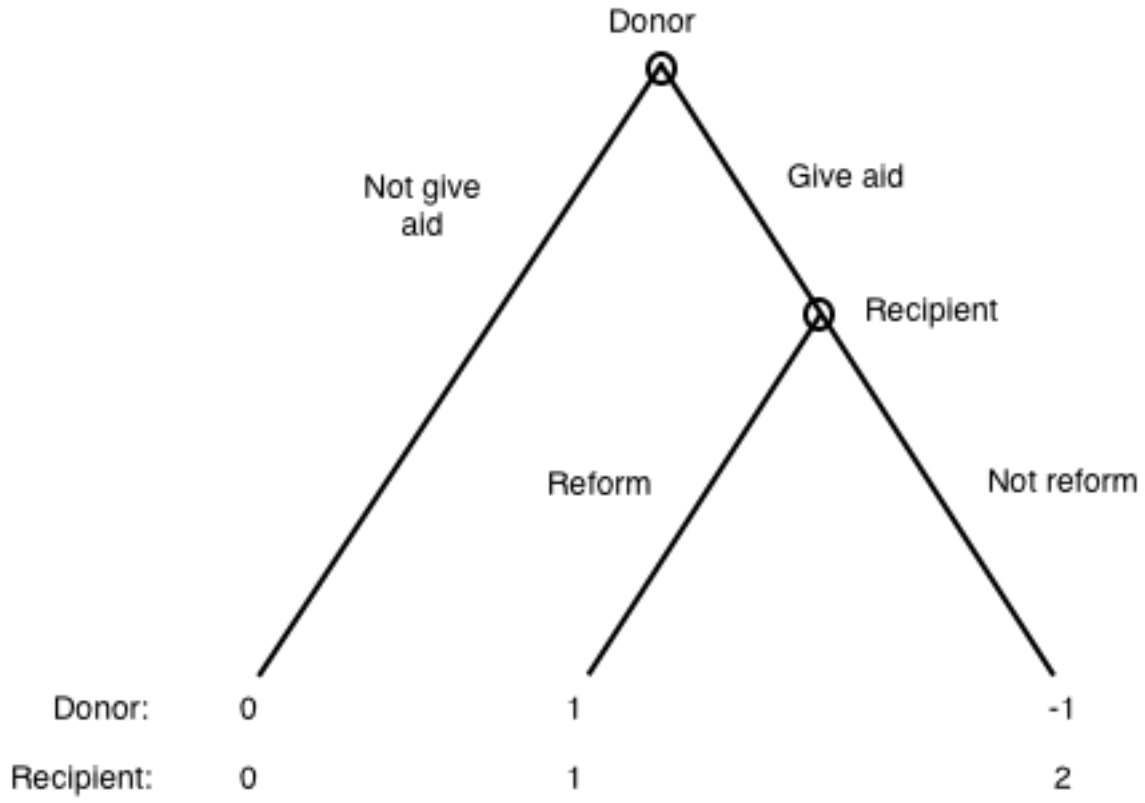

Figure 3.1: The basic donor-recipient game with conflicting interests

In this game, Donor *wants* to provide aid, but only if Recipient carries out certain reforms. Recipient cannot be trusted to do this, however, since upon receiving the money it would prefer to take it without the pain of reforming. Since it is a game of complete information, Donor knows this and does not give aid at the first stage.

We can prove this formally by solving for subgame perfect Nash equilibria. Using backward induction (as done in the paragraph above) we see that only "not give aid", leading to the "no aid" outcome (0,0), is a Nash equilibrium in both subgames. This outcome is Pareto suboptimal, as both parties would prefer to give aid and carry out the reforms to this outcome.

[18] The important thing is not *what* the donor wants (in this case increasing the welfare of the poor), or *what* is needed to achieve it (in this case tough reforms). The means and ends can really be anything as long the donor and the recipient disagree on them.
[19] This game is a slightly modified version of a similiar game developed by Hovi (2008: 99).

In this chapter, I refer to the existence of a conflict of interest as the *basic condition* for the quantity of aid provided to be less than the donor would ideally prefer. Conflicts of interest between donors and recipients have always been a part of aid giving.[20] Traditionally, donors have approached this problem by giving aid on conditions.

3.4. Conditionality

Olav Stokke provides a useful definition of conditionality:

> The key element is the use of pressure, by the donor, in terms of threatening to terminate aid, or actually terminating or reducing it, if conditions are not met by the recipient. Foreign aid is used as a lever to promote objectives set by the donor which the recipient would not otherwise have agreed to (Stokke 1995: 12).

As Stokke (1995: 12) points out, this definition places the emphasis on the coercive aspect of conditionality. However, conditionality consists of both sticks and carrots. After all, meeting the conditions will "reward" the recipient with more aid than it would otherwise have received. Meeting the conditions can either be a prerequisite for entering into an aid relationship (*ex ante* conditions) or a stated goal that is to be followed up afterwards (*ex post* conditions). In the litarature, the main focus has been on *ex post* conditionality. Unless stated otherwise, I use the term "conditionality" synonmously with "*ex post* conditionality".

Conditionality is a widely debated issue in the international development discourse that has been with us since the birth of foreign aid. As Riddell (2007: 235) puts it: "[s]ince ODA was first given, it has always come with some strings attached". Those strings are there to ensure that the aid money will be spent efficiently on alleviating poverty—and nothing else (Kanbur 2006: 1572-73).

Over the years, both the view on conditionality and the conditions themselves have gone through big changes. In the 1950s, a common condition was to have in-

[20] Obviously, donor and recipient interests do not always diverge. One could easily imagine, for instance, that in cases of emergency aid given in response to devastating catastrophes, conditions would be redundant as donor and recipient interests would be the same (to rebuild the affected area). Even some long-term development aid comes without conditions attached, which implies that the donor sees no conflict of interest. China, for instance, is notorious for giving unconditional aid to regimes that western donors will not go near (The Economist 2010).

ward-looking industrialization projects based on import substitution. In the 1960s and 1970s, expansion of social welfare systems was added to the list. In the 1980s, conditions often included large-scale privatization and a general liberalization of the economy (Kanbur 2006: 1574). Conditionality came somewhat discredited out of the 1980s, and even the World Bank—a notorious champion of conditionality—agreed that it had largely been a failure. However, the idea lived on and the 1990s saw the rise of "policy conditionality", where the focus was not so much on economic reform as on good governance (Riddell 2007: 238).

Whatever its form, the persistence of conditionality speaks volumes. Although finding the right conditions to attach has proven elusive, the concept is still alluring as a solution to the conflict of interest described in the previous section. Figure 3.2 illustrates how conditionality can do this by adding a third stage to the game.

In this game, Donor can "punish" Recipient for not carrying through the reforms by stopping the aid flow. Knowing that Donor prefers to stop rather than keep giving aid if the promised reforms fail to materialize, Recipient complies, realizing Donor's most preferred outcome (1,1).

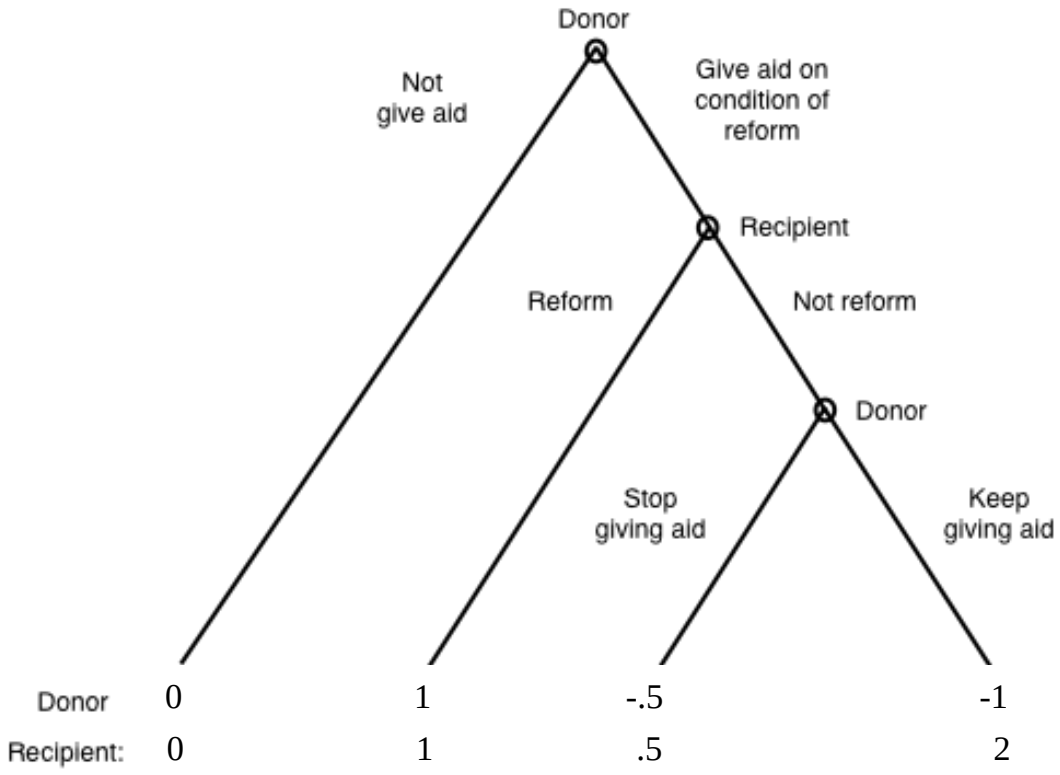

Figure 3.2: The donor-recipient game with conditionality

Conditionality is an intuitive way of solving conflicts of interest. Yet conditionality has a poor track record. The emerging consensus among scholars and policy-makers is that conditionality has been ineffective (Temple 2010: 4469), and that it "simply does not seem to work" (Kanbur 2006: 1574). In the next sections, I consider how conditionality failure can lead to outcomes where less aid is given than the donor would ideally prefer.

Table 3.1 ranks the outcomes in the game in Figure 3.2 for Donor. We see that two outcomes meet the criteria of being both unsatisfactory for the donor and representing lower than potential quantities of aid: 1) when no aid is given (the "no aid" outcome) and 2) when the aid flow is cut off (the "stop giving aid" outcome).

Table 3.1: Ranking of outcomes for Donor in the game in Figure 3.2

Rank	**Outcome**	**Aid quantity**
1	Donor gives aid, Recipient reforms	All aid is given
2	***Donor does not give aid***	***No aid is given***
3	***Donor gives aid, Recipient reforms, Donor stops giving aid***	***Some aid is given***
4	Donor gives aid, Recipient reforms, Donor keeps giving aid	All aid is given

How can conditionality failure lead to one of these two outcomes? Under complete information, we cannot end up the "stop giving aid" outcome since Donor knows whether Recipient will reform or not, and can act accordingly at the first stage. I consider how this outcome can be realized if we allow for incomplete information, in section 3.5.

The "no aid" outcome can be realized in one of two ways. First, the recipient may not be willing to reform, i.e., it may prefer not to receive aid to reforming. Second, Donor's threat to stop giving aid if Recipient does not reform may not be credible. Under complete information, Donor knows that Recipient knows that the threat is not credible and prefers not to provide aid at the first stage. In the next two subsections, I consider these two scenarios in turn.

3.4.1 When conditions are too demanding

In 2003, the United States Agency for International Development (USAID) gave a grant of 48 million dollars to the Brazilian government to be used for AIDS prevention. The transfer was to take place as annual payments over a five-year period, ending in 2008. However, in 2005, the conditions for the transfer suddenly changed.

In 2003, the US congress had passed the Global Aids Act, which explicitly stated that prostitution contributes to the spread of the HIV virus and had made the eradication of prostitution a policy goal (US Congress 2003). Initially, this did not apply to USAID due to first amendment concerns. However, the Attorney General eventually cleared away these concerns, and the so-called "Anti-prostitution pledge" became part of USAID's guidelines (Washington Post 2005).

Due to the delay, it was not until 2005 that Brazil was asked to officially condemn prostitution in order to be eligible for funds provided by USAID. Since cooperation with prostitutes is an essential part of the Brazilian model for combating AIDS, they refused and rejected the remaining 40 million dollars of the grant (Wall Street Journal 2005). Presumably, the United States would have preferred if Brazil had complied with the demands. If so, the outcome was clearly unsatisfactory for the donor.

The model

In the case of Brazil vs. USAID, the threat to withdraw aid, although credible, did not induce compliance from the recipient. To get a formal sense of the situation, consider the game in Figure 3.3. Let B_r denote the benefit to Recipient of receiving all the promised aid, and C_r the cost of reform. B_d is the payoff for Donor if Recipient reforms, while C_d represents the cost of giving all the aid. We assume that $B_d > C_d > 0$, meaning that Donor prefers (i) giving aid to not giving aid if Recipient reforms and (ii) stop giving aid to keep giving aid if Recipient does *not* reform (making the threat to cut of the aid flow credible). For simplicity it is also assumed that B_d is zero if Recipient does not carry out the reforms.

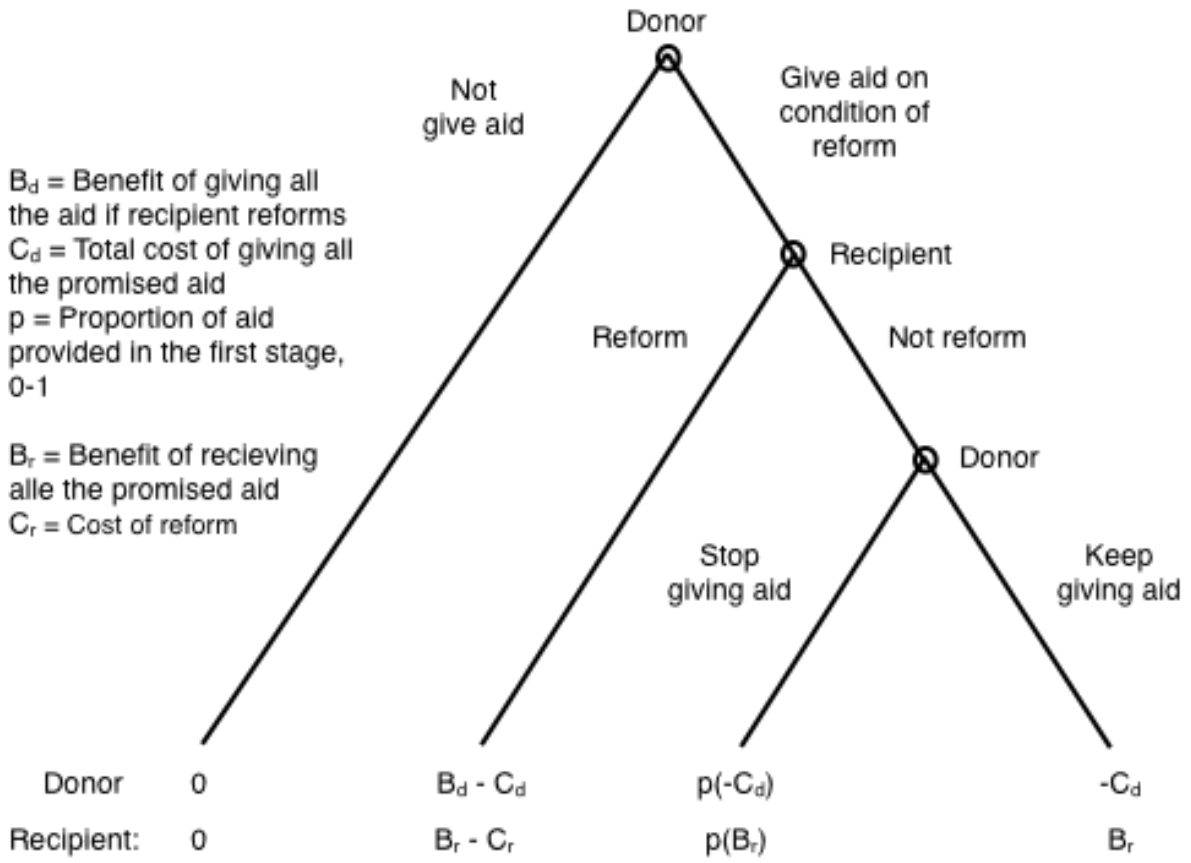

Figure 3.3: Formalized model of conditionality

Plainly, Recipient will only prefer to comply with the conditions when the benefit of receiving *all* the aid is bigger than the benefit of receiving only the aid provided in the first stage, i.e., when $B_r - C_r > pB_r$. Conversely, Recipient will not prefer to comply when:

(1) $$B_r - C_r < pB_r$$

which can be restated as:

(1.1) $$C_r > (1-p)B_r$$ [21]

[21] **Proof:** $B_r - C_r < pB_r \leftrightarrow -C_r < pB_r - B_r \leftrightarrow C_r > -pB_r + B_r \leftrightarrow C_r > B_r - pB_r \leftrightarrow C_r > (1-p)B_r$

Sub-condition (1.1) shows how conditions can be too demanding such that Recipient prefers to have the aid flow cut off rather than to comply with Donor's demands.

One aspect is the cost of reform (C_r). Other things being equal, the higher the cost of reform, the less likely that the recipient will prefer to comply with the conditions. It is not always apparent what the cost of reform is. In the case of Brazil vs. USAID, the Brazilian government was willing to meet the USAID more than half way. They brokered a 50-page document stipulating how American money would not be used to promote prostitutes' rights issues (Wall Street Journal 2005). The deal breaker was the demand for an *official* condemnation of prostitution. The cost in this case, it seems, was mostly political.

The other aspect is the potential loss of benefit when Donor stops giving aid, i.e., $(1-p)B_r$. The potential loss of aid money must be *substantial* for the threat to restrict aid to induce compliance. What constitutes as substantial varies from recipient to recipient, and the aid volume at stake must be seen in relation to the recipient's need for aid. Stokke (1995: 44) argues that "[t]he extent of aid dependency of the recipient government […] affects its room for manoeuvre. If dependency is high, even marginal reductions in aid may hurt".[22] The potential loss of utility from aid withdrawal is determined by the size of B_r and p. Formally, the benefits of receiving the rest of the promised aid are *not* sufficiently big (relative to the cost of reform) if:

(1.2) $$B_r < \frac{C_r}{(1-p)}$$ [23]

(1.3) $$p > B_r - \frac{C_r}{B_r}$$ [24]

Sub-condition (1.2) shows that, other things being equal, the lower B_r the lower the potential loss for the recipient. In our example, the USAID grant was a relatively small amount of Brazil's budget to fight AIDS, and it could easily be compensated with own

[22] A thing to bear in mind is that economic loss sometimes can be converted to political gain. Conditionality is a form of foreign intervention, encroaching on national sovereignty. If the circumstances are right, the recipient government can whip up national sentiments against foreign intervention and turn "loss in terms of financial capital (aid) into a gain in terms of […] political capital at home" (Stokke 1995: 43).

[23] **Proof:** $C_r > (1-p)B_r \leftrightarrow B_r(1-p) < C_r \leftrightarrow B_r < \frac{C_r}{(1-p)}$

[24] **Proof:** $B_r - C_r < pB_r \leftrightarrow pB_r > B_r - C_r \leftrightarrow p > B_r - \frac{C_r}{B_r}$

revenues (Wall Street Journal 2005). Seemingly, USAID did not have a lot of leverage in the situation. If the stakes had been higher, we might have seen a different result.

Another factor directly influencing the potential aid loss is the size of p. It follows from $(1-p)B_r$ in condition (1.1), that increasing *p* lowers the incentives for Recipient to comply with Donor's demands. Sub-condition (1.3) demonstrates how, other things being equal, providing a high proportion of the aid in the first stage decreases the severity of the threat to cut off the aid flow at the third stage.[25]

Solving for equilibria

When conditions are too demanding relative to the benefits of receiving all the aid, the threat to stop giving aid will not induce compliance. Under complete information, the donor knows this and face a choice between not giving aid (0) and paying $-pC_d$. The only sub-game perfect Nash equilibrium of the game is the Pareto suboptimal "no aid" outcome.[26]

The case of *ex ante* conditionality

The game in Figure 3.3 is an example of *ex post* conditionality, where aid is given on the condition of future reform. The case of *ex ante* conditionality, where reform is a precondition for aid, can be illustrated by assuming that $p = 0$. In this situation, no aid is provided before Recipient makes its move, removing the first stage of the game.

In the new, two-stage game, Recipient receives no benefit from not reforming ($pB_r = 0$), which has implications for condition (1). Now, the recipient will *not* reform if $B_r - C_r > 0$, i.e., if $B_r > C_r$. The cost-benefit analysis is simplified, but the conclusion remains the same. If the cost of reform outweighs the benefits of receiving *all* the aid, the conditions are too demanding and Recipient will not comply. In this case, the "no aid" outcome, although unsatisfactory for the donor, is not Pareto suboptimal as there is no other outcome preferred by both parties.

[25] The size of *p* is only relevant in cases of *ex post* conditionality.

[26] This outcome is of course somewhat different from the outcome in the empirical example, where aid was given and then restricted.

3.4.2 When the threat to withdraw aid is not credible

Effective use of conditions requires a credible commitment to conditionality on the part of the donor. However, in the real world, conditions are routinely violated without consequences for the recipient (Kanbur 2006: 13). In a much cited study, Jakob Svensson (2003: 383) found ”no link between a country`s reform effort, or fulfillment of conditionality, and the disbursement rate [of aid]”. This backed up earlier studies that had found ”no statistical relationship between policy change and aid flows” (Svensson 2000: 64).

Why are donors not committed to conditionality? Kanbur (2006: 1574-76) identifies two main strands of explanations in the literature. The first moves away from the simple donor-recipient model and looks at how different agents within the donor country benefit from the aid flow itself, regardless of its efficiency. These agents (e.g aid agencies) may fight the withdrawal of aid from a recipient country.

The second strand of explanations takes us back to the donor-recipient model. If a donor genuinely wants to improve the welfare of the recipient, this could undermine the credibility of the donor’s threat to stop giving aid. Even if enforcing the conditions is best for the recipient country in the long run, it will inflict a short-term pain on the recipient that will tempt the donor to overlook the violation. This situation is known as a Samaritan’s Dilemma (Coate 1995: 46; Svensson 2000: 63).

The Samaritan’s dilemma is a real threat to conditionality for donors that care about the welfare of the recipient. In effect, “[t]he Samaritan donor is incapable of credibly threatening to withdraw future aid” (Gibson et. al 2005: 89). Clearly, only highly altruistic donors can face a *true* Samaritan’s Dilemma. Since donor countries tend to be driven more by strategic interest (see chapter 1), this kind of situation might not be that common. However, there are other reasons than altruism for why a donor’s threat to restrict aid might lack credibility.

In a study of when donors withdraw aid, Carew Boulding and Susan Hyde (2004), find that vested interests in the recipient country make enforcement of conditions less likely. Using quantitative analysis, they conclude that the existence of strategic and business interests, in particular, reduces the possibility of aid withdrawal—even in cases of clear violations of conditions (Boulding & Hyde 2004: 2).

The model

Whether its due to a Samaritan's Dilemma or vested interests (or other factors not considered here), the credibility of the threat to stop giving aid if conditions are not met suffers from the fact that withdrawing aid often is painful for the donor, too. To include this in the model, let N denote the negative utility incurred by Donor from stopping the aid flow. The revised model is depicted in Figure 3.4.

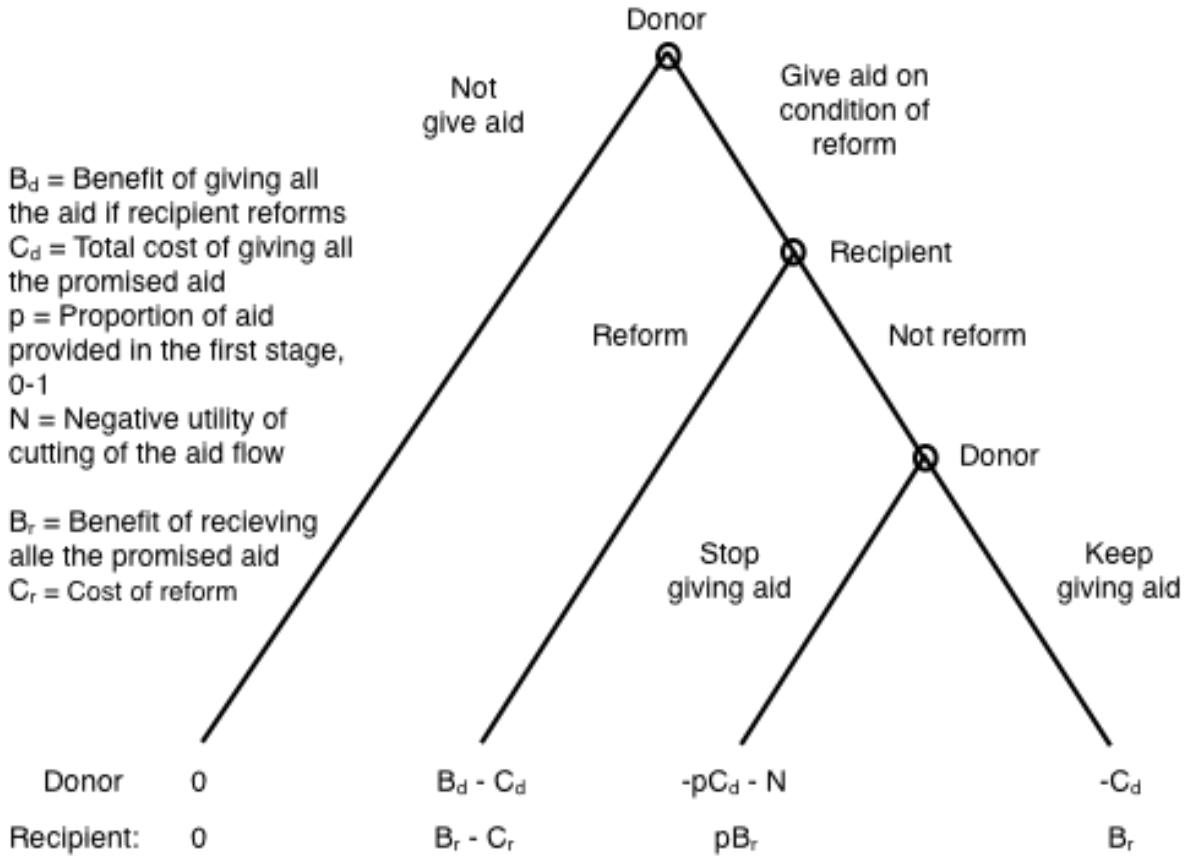

Figure 3.4: Revised formalized model of conditionality

The credibility problem arises if Donor prefers to keep giving aid rather than to stop giving aid after Recipient has chosen not to reform. Formally, this is the case when $-C_d$ is bigger than $-pC_d - N$. Since $-pC_d$ is always larger than $-C_d$ the decisive factor is the size of N relative to C_d. More precisely, the threat to stop giving aid is *not* credible when the following condition is satisfied:

(2) $$N > (1-p)C_d.$$[27]

Technically this means that pledging more aid (increasing C_d) and providing less of it in the first stage (decreasing p) increases the credibility of the threat as it implies a higher cost of *not* cutting off the aid flow relative to N. A problem with this reasoning is that C_d and p probably form part of the calculation of N.[28] However, the left side of the inequality offers some interesting insight.

Other things being equal, the higher the N the less credible the threat to stop giving aid. In this model, N is a catch-all notation that can represent any negative feedback associated with aid cuts. If Donor faces a true Samaritan's Dilemma then N is the moral cost associated with the added suffering of the poor in the recipient country. Thus, the more Donor cares about the short-term prospects of the poor, the less likely it will be committed to conditionality. This conclusion is in line with Svensson's (2000: 63) argument that conditionality is only credible in the hands of "a donor with less aversion to [short-term] poverty".

Solving for equilibria

In the game in Figure 3.4, Donor only wants to give aid on conditions. However, both Recipient and Donor know that Donor will not enforce conditions in the event of non-compliance. Therefore, Recipient will choose not to reform. Knowing this, Donor prefers not to give aid at the first stage, leading to the Pareto suboptimal "no aid" outcome.

Such a situation seems rather hypothetical. After all, the circumstances that discourage the donor from stopping the aid flow (poverty and vested interests) are the same that encourage aid giving in the first place. In fact, a high N is probably more likely to have a *positive* effect on aid levels by preventing the donor from cutting off

[27]. **Proof:** $p(-C_d) - N < -C_d \leftrightarrow -N < -C_d + pC_d \leftrightarrow N > C_d - pC_d \leftrightarrow N > (1-p)C_d$

[28] Exactly how C_d and p enter into the calculation of N is hard to say. One possibility is that if the amount of promised aid is large (high C_d) then the negative feedback from not providing it (N) will also be bigger. For instance, it seems reasonable to me to argue that the moral cost of withdrawing aid is higher the more the withdrawal hurts the recipient economically. Other things being equal, the more aid is withdrawn the more the recipient suffers (economically). If this is the case, increasing C_d does not increase the credibility of the threat, quite the opposite.

the aid flow when conditions are not met. The existence of N is more likely to lead to outcomes with low levels of aid under *incomplete* information (see section 3.5.3).

3.5. The impact of incomplete information

Up until now, all games have been of complete information, that is, both players' preferences and strategy sets are assumed to be common knowledge (Hovi 2008: 31). In this section, I relax this assumption in order to study how *incomplete* information can lead to outcomes with less than potential quantities of aid.

The conventional way of modeling games of incomplete information is to include Nature as a player. Nature makes the first move in the game, establishing the players' strategic types, but at least one of the players is unable to observe this move. In effect, this turns the game into a game of imperfect information (Hovi 2008: 31), which in turn affects what solution concepts we can apply. In games of imperfect information, the sub-game perfect Nash equilibrium is no longer satisfactory as a solution concept. In the following analysis, I apply the concept of perfect Bayesian equilibria (PBE), which incorporates the notion of beliefs (Hovi 2008: 97).

As before, the aim is to identify how outcomes where less aid is given than the donor would ideally prefer can be realized. In section 3.4, I identified two such outcomes: (i) the "no aid" outcome and (ii) the "stop giving aid" outcome (see Table 3.1). As mentioned, the "stop giving aid" outcome will never materialize under complete information, since Donor can anticipate whether Recipient will reform or not (and can act accordingly at the first stage). However, in games of incomplete information, Donor may misjudge what Recipient will do at the second stage. Hence, in this section, I also consider conditions for the "stop giving aid" outcome to represent an equilibrium in the game.

In sections 3.3 and 3.4, I found three conditions (including the basic condition) for less than potential quantities of aid to be given.[29] In order to study the impact of incomplete information on these conditions, I consider three games of one-sided incomplete information. In section 3.5.1, I show how uncertainty about Recipient's pref-

[29] The basic condition is that there must exist a conflict of interest between the donor and the recipient (see section 3.3). Condition (1): $B_r - C_r < pB_r$ (see section 3.4.1). Condition (2): $N > (1-p)C_d$ (see section 3.4.2).

erences changes the basic condition. In section 3.5.2, I present a game where Donor is uncertain about Recipient's willingness to reform. Finally, in section 3.5.3, I consider a game where Recipient is uncertain about Donor's commitment to conditionality (whether or not Donor is willing to cut off the aid flow).

3.5.1 Uncertainty about the conflict of interest

In section 3.3, I introduced the basic condition underlying all the subsequent models, namely the existence a conflict of interest between the donor and the recipient. Under incomplete information, a conflict of interest is no longer strictly necessary to get outcomes with less than potential quantities of aid.

Consider the game depicted in Figure 3.1, in which there is conflict of interest. The conflict arises from the fact that Recipient's payoff of not reforming (2) is higher than its payoff of reforming (1). Under complete information, Donor knows this. However, imagine a situation where Donor is uncertain whether Recipient's payoff of reforming is 1 or 3. If the actual payoff is 1, it is a game of conflict of interest, however, if the real payoff is 3, then there is no conflict of interest. Assume that Donor believes the actual payoff to be 3 (i.e. that there does not exist any conflict of interest) with probability q. The expected utility of giving aid is then: $q1 + (1 - q)(-1)$.

Since Donor knows that not giving aid will yield a payoff of 0 with certainty, it will not give aid only if the following condition is satisfied: $q < .5$.[30] This illustrates how the basic condition changes if we allow for private information: now, the Pareto suboptimal outcome (0,0) can only be realized if Donor *believes* that there exists a conflict of interest (with a sufficiently high probability). The revised basic condition is an improvement. It now accounts for cases where aid has been given unconditionally, even though there was some degree of conflict of interest.

Consider the case of recent US aid to Pakistan. Pakistan is regarded as a crucial ally of the United States in their "war on terror". In the period 2000-2009, a total of $12,6 billion (including military assistance) was given in aid to Pakistan by the United States. Most of this aid was unconditional as the United States presumably took it for

[30] **Proof:** $q1 + (1 - q)(-1) < 0 \leftrightarrow q - 1 + 1q < 0 \leftrightarrow 1q + 1q < 1 \leftrightarrow 2q < 1 \leftrightarrow q < ½$

granted that Pakistan would use the money to fight the Taliban (Newsweek 2009). In other words, the United States believed that no conflict of interest existed that mandated the use of conditionality.

That turned out to be a false assumption. The first matter to surface was that, instead of fighting the Taliban, the Pakistani government had used some of the money to pay them off. A case of particular notice was the 2004 deal with Waziri militant leader Nek Mohammed that in the end fell through—and where US money ended up funding insurgency (Newsweek 2009). It did not stop there, however. In 2009, former Pakistani president Pervez Musharraf admitted that US aid had been used to strengthen Pakistan's defense against India (BBC 2009). As a response to these revelations, when a new five-year aid deal worth $7,5 billion was passed by the US congress in 2009, it came with stipulations explicitly prohibiting funds from being used to support terrorist groups or to attack neighboring countries (Newsweek 2009).[31]

Assuming uncertainty about the underlying conflict of interest is undoubtedly more realistic. However, it also complicates the analysis substantially. When I now turn to the issue of conditionality, I assume there does in fact exist a conflict of interest, and that this fact is common knowledge. This assumption is made purely for convenience in order to avoid the unnecessary complication of adding a second layer of uncertainty to the models.

3.5.2 Uncertainty about the recipient's willingness to reform

Zimbabwe is a prime target for foreign aid. The country has faced a massive decline over the last decades. When it gained independence in 1980, it was on a strong economic foundation. Now, 30 years later, it is in utter disarray. Hyperinflation has left the national currency worthless; unemployment hovers around 90%; 1 in 5 is infected with the HIV virus; and life expectancy at birth is the lowest in the world (CIA.gov 2010; WHO.int 2010).

[31] To which Pakistan's ambassador to the US allegedly quipped: "There is no bullet that has been invented that Pakistan can be given to shoot a terrorist that cannot be used in case there is a war with India" (MumbaiMirror.com).

Robert Mugabe has controlled Zimbabwe since independence, and is considered responsible for its collapse. His international support has dwindled, and donors are reluctant to provide aid through official channels without sweeping political and economic reforms. In 2008, Mugabe struck a power-sharing deal with the opposition that created the Government of National Unity. The new prime minister, opposition leader Morgan Tsvangirai, set out to woo international donors in order to get the economy going again. It turned out to be a tough sell.

Touring the international donor community in 2009, Tsvangirai secured a fair amount of foreign aid for Zimbabwe. However, he failed to convince donors to provide *direct* financial support to the new government. The United States pledged $73 million in development assistance, but President Barack Obama made sure to point out that the money would "not be going through the government directly, because we continue to be concerned about consolidating democracy, human rights and rule of law" (New York Times 2009).

When Tsvangirai came to Norway, it was the same story. The prime minister of Norway, Jens Stoltenberg, expressed his support for Zimbabwe's new government and claimed that Norway was "prepared to start bilateral [aid] cooperation with the Government [of Zimbabwe]". However, such cooperation could not be established before there was viable progress "in a number of areas" (Regjeringen.no 2009).

To date, the only countries that support the Government of National Unity directly are China and South Africa. As a consequence, the Zimbabwean government must rely on its own resources to deal with its whopping fiscal deficits, which threatens the already fragile power-sharing arrangement (Reuters 2010).

Presumably, no one wants the new government to fail, which would push Zimbabwe into further distress. The international donor community is united in its support for the government. However, donors do not want to provide direct government-to-government aid, knowing that a fair amount of the money could end up in Robert Mugabe's pockets. Consider this an example of how lack of trust in the donor-recipient relationship can lead to aid not being given, even if the donor wants to give.

The model

We can model the situation described above as a game of incomplete information, where Recipient's strategic type is not common knowledge. In the game in Figure 3.5, Donor is uncertain of Recipient's willingness to reform. We assume that Recipient is either "unwilling", in which case condition (1) holds, or "willing", in which case it does not.[32] Donor believes Recipient to be "willing" with probability q (q is assumed to be common knowledge). The negative utility incurred by Donor from cutting off the aid flow (N) is removed from the model in order to simplify the analysis.

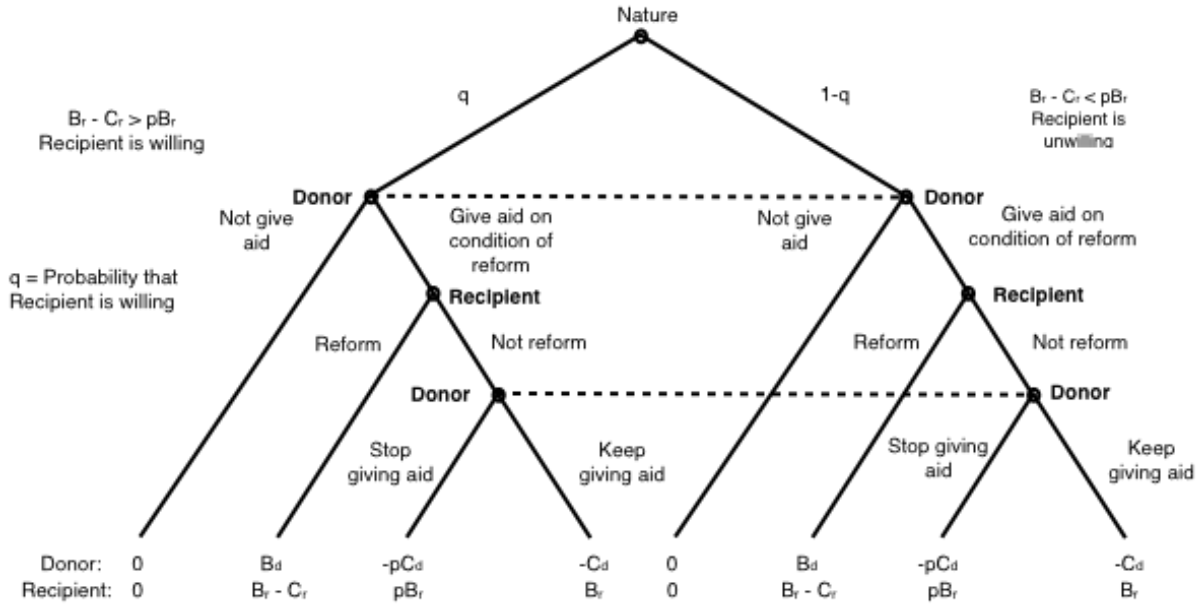

Figure 3.5: Incomplete information 1: Uncertainty about Recipient's willingness to reform

In this game, Donor makes the first move under uncertainty. When deciding whether to give aid or not, Donor knows the two possible strategic types Recipient can be, and can foresee what Recipient will do at the second stage in both contingencies. If the Recipient is "willing", it will reform and Donor will get a net payoff of $B_d - C_d$. However, if Recipient is "unwilling" it will not reform. In this case, Donor will stop giving aid at the third stage, and get a payoff of $-pC_d$. The following function denotes Donor's expected utility of giving aid:

[32] Condition (1): $B_r - C_r < pB_r$ (The benefit of reforming is less than the benefit of receiving just the proportion p of the aid).

$$EU_{Donor}^{Give\ aid}: q(B_d - C_d) + (1-q)(-pC_d)$$

Solving for equilibria

When will outcomes with less than potential amounts of aid be in equilibrium in this game? Since not giving aid yields a certain payoff of 0, Donor will not give aid if $q(B_d - C_d) + (1-q)(-pC_d) < 0$. Solving for q gives:

(3) $$q < \frac{pC_d}{(B_d - C_d + pC_d)}$$ [33]

If condition (3) holds, the Pareto suboptimal "no aid" outcome is the only PBE in the game. This is a pooling PBE where Recipient's true strategic type is not revealed. Since Donor does not give aid, the game ends without giving Recipient a chance to act (and thereby reveal its true type).

If condition (3) does not hold, we arrive at a different PBE, in which Recipient gets to act at the second stage. What will it do? Since we do not know Recipient's type we can go no further than to state the obvious: it will reform if "willing" and not reform if "unwilling". Since Donor will stop giving aid at the third stage if Recipient does not reform, the "stop giving aid" outcome is realized if:

Condition (3.1):

1. Donor believes that Recipient is "willing" with a probability q that satisfies the following condition: $q > \frac{pC_d}{(B_d - C_d + pC_d)}$
2. Recipient is "unwilling", i.e., $B_r - C_r < pB_r$

Although this outcome is not Pareto suboptimal, it is still unsatisfactory the donor.

[33] **Proof:** $q(B_d - C_d) + (1-q)(-pC_d) < 0 \leftrightarrow qB_d - qC_d - pC_d + qpC_d < 0 \leftrightarrow q(B_d - C_d + pC_d) < pC_d \leftrightarrow q < \frac{pC_d}{(B_d - C_d + pC_d)}$

3.5.3 Uncertainty about the donor's resolve

Since the recipient (presumably) prefers to receive all the aid without undertaking the reforms, it may be tempted not to meet the conditions if it believes that the donor will keep giving aid regardless of efforts to reform. However, a recipient may miscalculate a donor's commitment to conditionality.

In 1991, a group of foreign donors led by Germany laid pressure on the Kenyan government to undertake political reforms. The donors' main demand was that the multi-party system—abolished in 1978—be re-established. They threatened to restrict aid if Kenya did not comply. This was in august. When there was no positive response from the Kenyan government, all quick-disbursing aid was suspended in November (Waller 1995: 118).

The aid withdrawal had an immediate effect. Within days, the Kenyan president, Daniel Arap Moi, announced that article 2a of the constitution, which declared Kenya a one-party state, would be abolished and that elections would take place the following year. In December 1992, elections—although not entirely free and fair—were held and the ruling party, KANU, conceded some power to the opposition. In the summer of 1993, negotiations to restart aid disbursement began (Waller 1995: 119).

The quick response by Kenya after the aid flow was stopped indicates that the donors' resolve took President Moi by surprise. If the Kenyan government had considered the threat to be credible, the rational response would have been to carry out the reforms without losing aid money. We can also assume that the donors would have preferred if the reforms had been carried out right away—without having to make good on their threat to stop the aid flow. Presumably, the outcome was unsatisfactory for all parties.

The model

Two conditions must be met for this kind of situation to occur. First, the recipient must consider the donor's threat to stop giving aid non-credible. Second, the donor must in fact be willing to stop the aid flow. We can formalize the argument by modeling a game of incomplete information as depicted in Figure 3.6, where Recipient is uncertain of Donor's cost of cutting off the aid flow.

The game in Figure 3.6 deviates from the original game as seen in Figure 3.4. The first stage has been removed, giving Recipient the first move.[34] The payoffs have also been changed somewhat, in order to better illustrate the empirical example. Since the first stage has been removed, p becomes 0 and Donor's cost of stop giving aid is now just $-N$. Furthermore, the status quo is no longer *no aid given*, but *aid given without reform* (as presumably has been case up until the start of the game). We assume that since Donor has invested in conditionality it would incur a negative utility if aid continued to flow without reform. This negative utility is assumed to be inversely proportional to the positive utility associated with making Recipient reform (B_d).

The starting point for the game in Figure 3.6 is that Donor has demanded that Recipient carry out certain reforms, and has threatened to stop giving aid if it does not. Recipient moves first, and can choose between reforming and not reforming. Reforming means having to pay the cost of reform (C_r), and will thus yield a payoff of $-C_r$. Notice that, unlike previous games, there is no extra benefit to be obtained by reforming. In effect, Recipient has to pay to maintain the status quo. If Recipient chooses not to reform, the game moves to the second stage, and its payoff will depend on Donor's resolve in the face of non-compliance.

[34] See appendix for a brief consideration of how the original three-stage game would be influenced by uncertainty about Donor's commitment to conditionality.

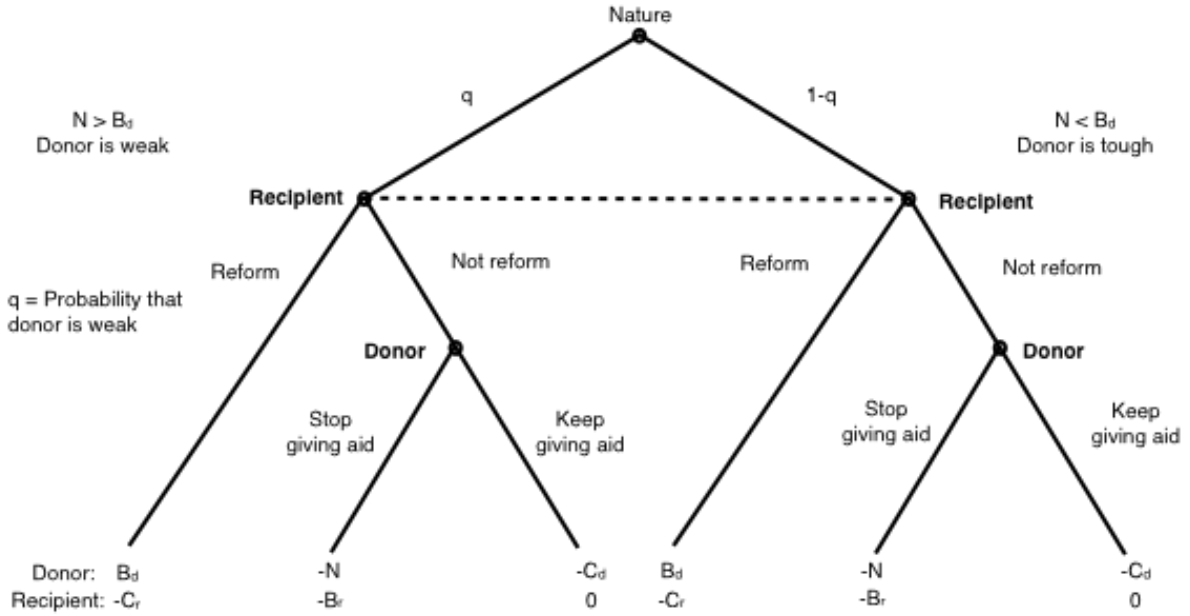

Figure 3.6: Incomplete information 2: Uncertainty about Donor's resolve

In this game, Recipient is uncertain about Donor's cost of stopping the aid flow (N). However, it knows that Donor can either be "tough", meaning that $N < B_d$, or "weak", in which case $N > B_d$. If Donor is "tough" it will stop giving aid if Recipient fails to reform, and Recipient will lose the benefit of receiving aid ($-B_r$). However, if Donor is "weak" it will not stop the aid flow, and status quo will be maintained for Recipient (0). Let q denote the probability with which Recipient considers Donor to be "weak". This gives the following function for Recipient's expected utility of not reforming:

$$\mathrm{EU}_{\mathrm{Recipient}}^{Not\,reform}: q(0) + (1-q)(-B_r) = qB_r - B_r$$

Solving for equilibria

When will "stop giving aid" be a PBE in this game? We assume that the threat to stop giving aid is sufficiently severe, i.e. $B_r > C_r$, meaning that Recipient would rather reform than to not receive aid. Thus, the only way to end up at the "stop giving aid" outcome is if Recipient erroneously believes Donor to be "weak". Formally, this is the case when:

Condition (4):

1. Recipient believes Donor to be "weak" with a probability q that satisfies the following condition: $q > \frac{(B_r - C_r)}{B_r}$ [35]
2. Donor is in fact "tough", i.e. $N < B_d$

In this game, the "stop giving aid" outcome is Pareto suboptimal.

Did Kenya misjudge its donors' cost of stopping the aid flow? That might very well be the case. The Kenyans certainly had reasons to believe that the donors' costs of stopping the aid flow were considerable. Britain and the United States were especially reluctant as they both had close ties to President Moi—and Kenya in general. Most of the capital invested in Kenya was British, and British nationals constituted the biggest group of foreigners living in Kenya (Waller 1995: 188). For the Americans, President Moi was a crucial ally in pursuing military-strategic interests in the region, and then US President, George H. Bush, was openly "reluctant to support [aid cuts]" (Schmitz 1999: 58). Yet both countries backed the German lead initiative in the end.

3.6. Conclusion

In this chapter, I considered how strategic interaction between a donor and a recipient might lead the donor to give less aid than it would ideally prefer. Specifically, I considered the possibility that the donor only wants to give aid on the condition of certain behavior of the recipient. If the recipient does not conform to this behavior, less than potential quantities of aid will be provided, which is an unsatisfactory outcome for the donor. I identified two such outcomes: (i) the "no aid" outcome, where the donor does not provide aid at all, and (ii) the "stop giving aid" outcome, where the donor withdraws aid (see Table 3.1).

Under complete information, an actual conflict of interest between the donor and the recipient is necessary to arrive at outcomes with less than potential quantities of aid. However, as demonstrated in section 3.5.1, this condition is relaxed if we allow for the possibility that the donor can be *uncertain* about the recipient's preferences. In this case, it is enough that the donor *believes* that there is a conflict of interest.

[35] **Proof:** $qB_r - B_r > -C_r \leftrightarrow qB_r > B_r - C_r \leftrightarrow q > \frac{B_r - C_r}{B_r}$

In theory, the conflict of interest can be resolved with conditionality. By imposing conditions on the recipient—and threatening to withdraw the aid if they are not met—the donor can shape the recipient's incentives towards compliance. However, we can still get outcomes with less than potential quantities of aid if conditionality fails. I considered two such possibilities.

First, the recipient may prefer to have aid restricted rather than to comply with the conditions. Under complete information, the recipient may consider the conditions too demanding and prefer not to receive aid. Under incomplete information, the recipient may claim to be willing to comply with the conditions. The donor may not believe the claims, leading to the "no aid" outcome. Alternatively, the donor may *erroneously* believe that the recipient is willing to reform, and stop giving aid when the reforms do not materialize, leading to the "stop giving aid" outcome. I considered these scenarios in sections 3.4.1 (complete information) and 3.5.2 (incomplete information). Table 3.2 summarizes the main findings in these sections.

Table 3.2: Summary of the findings in sections 3.4.1 and 3.5.2

	Situation	**Outcome**	**Pareto efficiency**
Complete information	Donor knows that Recipient prefers to not reform	No aid is given	Pareto suboptimal
Incomplete information	Donor believes that Recipient is unwilling to reform	No aid is given	Pareto suboptimal
	Donor erroneously believes that Recipient is willing to reform	Aid flow is cut off	Pareto optimal, but unsatisfactory for Donor

Second, the threat to withdraw the aid may not be credible. This is the case when the donor prefers to keep giving aid rather than stop giving aid in the event of non-compliance by the recipient. I considered two ways that lack of credibility can lead to less than potential quantities of aid. First, under complete information, it is common knowledge that the donor is not committed to conditionality. In this case, the donor prefers not to give aid at all. Second, under incomplete information, the recipient may be uncertain about the donor's resolve and erroneously believe that it will not restrict

aid, leading to the "stop giving aid" outcome. I considered these scenarios in sections 3.4.2 and 3.5.3. Table 3.3 summarizes the main findings.

Table 3.3: Summary of findings in sections 3.4.2 and 3.5.3

	Situation	**Outcome**	**Pareto efficiency**
Complete information	Donors lack of commitment to conditionality is common knowledge	No aid is given	Pareto suboptimal
Incomplete information	Recipient erroneously believes that Donor will not withdraw aid	Aid flow is cut off	Pareto suboptimal (in a two-stage game)

The situations considered in this chapter are not unknown in the real world. Table 3.4 summarizes *all* the outcomes with lower than potential quantities of aid described in this chapter and links them to the empirical examples.

It is beyond this thesis to calculate how much of donor stinginess such situations can account for. However, we can conclude with some certainty that the "loss" of aid money due to problems in the donor-recipient relationship is substantial. For instance, in the Kenya case (see section 3.5.3) $350 million was at stake (Waller 1995: 118). We can only speculate as to how much the international donor community would have given to a Zimbabwe without Robert Mugabe, but it seems fair to say—considering the importance of this huge country and its desperate need for aid—that hundreds of millions of dollars would not be out of the ballpark.

Table 3.4: Situations where less aid is given than the donor would ideally prefer

Basic condition		**Information**	**Situation**	**Outcome**	**Case**
Donor knows, or believes with sufficiently high probability that there exists a conflict of interest	Conditionality	Incomplete information	Donor believes that Recipient is unwilling to reform	No aid is given	Zimbabwe 2009
			Donor erroneously believes that Recipient is willing to reform. Donor prefers to cut off the aid flow in the event of non-compliance*	Aid flow is cut off	-
			Recipient erroneously believes that Donor is not willing to cut off the aid flow in the event of non-compliance*†	Aid flow is cut off	Kenya 1991
			Donor knows that Recipient believes that Donor is not willing to cut off the aid flow in the event of non-compliance (see appendix)	No aid is given	-
		Complete information	Donor knows that Recipient is unwilling to reform	No aid is given	Brazil 2005
			Common knowledge that Donor is not committed to conditionality	No aid is given	-
	Conditionality not an option			No aid is given	-
Donor erroneously believes that there is no conflict of interest				Aid is cut off or conditionality applied	Pakistan 2001-09

* Requires actual conflict of interest
† Assumes that Recipient has the first move. Alternatively, that it is a game of two-sided incomplete information where a "tough" Donor erroneously believes that Recipient believes that Donor is "tough".

3.7. Appendix

3.7.1 Uncertainty about Donor's resolve: Equilibria in the three stage model

The equilibrium specified in condition (4) is a separating equilibrium, in which Donor reveals his true strategic type during the course of the game.[36] At the end of the game there is no longer any uncertainty about whether Donor is "tough" or "weak" since Donor is forced to act if Recipient does not reform, just as Kenya's donors were in 1991. Consider what would happen if we kept the original three-stage model (Figure 3.4), while assuming that Donor's cost of cutting off the aid flow is not common knowledge. In this game "weak" would imply that condition (2) is satisfied, while "tough" would mean that it is not.

This time Donor gets to make the first move. Since the probability with which Recipient believes Donor to be "weak" (i.e. that condition (2) holds) is common knowledge, Donor is able to calculate Recipient's expected utility of not reforming and can therefore foresee Recipient's move at the second stage. Hence, if q is sufficiently big, so that Recipient will not reform, Donor will not give aid regardless of whether it is in fact "tough" or "weak". This outcome would represent a pooling PBE, as the Donor's true strategic type would not be revealed.[37]

It is certainly possible to imagine a situation where aid is not given because Donor knows that Recipient believes it to be "weak", but such intimate knowledge of beliefs seems a bit far-fetched. A more realistic situation might be that Donor *believes* that Recipient believes that Donor is "weak". One could model this kind of situation as a game of two-sided incomplete information, where Donor is uncertain about Recipients beliefs. In this game both situations where less than the potential amount of aid is given can be an equilibrium outcome. Still, it would be hard to find examples of this kind of situations, and such a model would be rather hypothetical in nature.

[36] This can be proven using Baye's rule to update Recipient's believes, where A = Donor is "tough" and B = Donor stops giving aid: $P(A|B) = 1 \bullet q \,/\, 1 \bullet q + 0 \bullet (1-p) = 1$.

[37] $P(A|B) = 0 \bullet q \,/\, 0 \bullet q + 0 \bullet (1-q) = \frac{0}{0}$. A fraction with 0 as the denominator is undefined, so we can't really use Baye's rule in this instance. However, we can assume that at the end of the game Recipient still believes Donor to be "tough" with a probability of q.

Chapter 4 Donor-donor games I: Pareto efficiency

4.1. Purpose and plan

In this and the next chapters, I focus on the strategic interaction between donor states and how this interaction is shaped by the circumstances in which they operate. More specifically, I look at whether and how these circumstances might lead to Pareto suboptimal levels of aid, i.e., outcomes where all donors would gain from a multilateral increase in aid efforts. By circumstances I mean: a) the characteristics of aid giving and the composition of the donor group, and b) the legal and political framework (i.e. regime) in which the donor group operates.

These two aspects build on each other. The characteristics of aid giving and the structure of the donor group influence the *ex ante* outcome, which, in turn, affects the conditions for the regime to be effective. Consequently, the analysis consists of two parts. In this chapter, I find the conditions for the *ex ante* provision of aid to be Pareto suboptimal, postponing the discussion of regime structure to chapter 5.

The analysis in this chapter rests on two assumptions. First, I assume that foreign aid is a contribution to a public good. Second, I assume that all donors *view* foreign aid as a contribution to a public good. I briefly discuss validity of these assumptions, in section 4.2.

A classic finding in the literature on public goods is that they are often underprovided and that the problem of provision is shaped by properties of the provision group as well as properties of the good. In sections 4.3 and 4.4, I look at how these aspects shape the voluntary provision of foreign aid. More precisely, I find the conditions for the provision to be Pareto suboptimal.

4.2. Foreign aid and public goods

Is foreign aid a contribution to a public good? And do donors look at aid this way? The analysis in both this and the next chapters rests on the assumption that the answer to

both questions is "yes". In this section, I briefly consider the validity of this assumption.

4.2.1 Is foreign aid a contribution to a public good?

In an interdependent world, global development is more than a moral imperative; one could make the case for foreign aid solely on grounds of self-interest. This is particularly visible in the border areas between rich and poor parts of the world, for instance between Europe and Africa. Most of the world's fragile states are located in Africa and according to Giorgia Giovanneti (2009) they are "bad *neighbors*, as negative spillover effects such as instability, lower growth, diseases, refugees, trafficking, and smuggling spread rapidly".

As a consequence, European donors are integrating their approach to creating development in Africa. When the EU Commission presented the *EU Strategy for Africa* in 2005 it emphasized that "Africa's development is also very much in Europe's interest, economically, politically and strategically. Attaining the MDGs [for Africa] is therefore a shared objective and a common goal" (EU 2005: 9). It called for a "common, coherent and comprehensive" strategy towards Africa (Ibid.).

The incentives to improve their own neighborhoods are likely to be strong, so it is reasonable to assume that development is at least a *regional* public good. But is there also a bigger perspective? The Monterrey Consensus (2002) certainly provides some lofty rhetoric on how financing for development is a *global* challenge, but is this really the case? For something to be a truly global concern, every country in the world must potentially be affected. Is development a global public good, in the same way as, for instance, mitigating climate change or conserving the ozone layer are global public goods?

According to DAC, it is. In *The DAC Guidelines for Poverty Reduction* (2001) the argument is made that globalization spreads the social ills associated with poverty not just across borders, but also across continents.

> Eradicating poverty is thus more than a moral and humanitarian imperative. It is also essential for global security and prosperity and for reducing envi-

> ronmental stresses. *It is an international public good of the first order, serving the interests of all* (DAC 2001: 15, emphasis added).

Among scholars there has been some debate as to whether foreign aid is primarily a contribution to public or private goods. Hayashi (2002: 2) consider that only multilateral foreign aid qualify as contributions to a public good, since "[b]ilateral foreign aid [is used] as a policy instrument to achieve objectives that are not shared with other nations". It is difficult to disagree with the sentiment that multilateral aid is a more pure form of contribution to a public good than bilateral aid. However, assuming that it fosters development I would argue that all aid provides public benefits in some way:

> The foreign aid that the industrialized democracies give to the underdeveloped countries is a collective good to these aid-giving nations, at least to the extent that they all value the development of the less developed areas (Olson & Zeckhauser 1966: 275).

4.2.2 Do donors view aid as contributing to a public good?

Even if foreign aid *can* be seen a contribution to a public good it is by no means certain that donors look at foreign aid this way. In fact, at least some policymakers probably have a different perspective. For instance, Morten Høglund, spokesperson on foreign policy for the Norwegian Progress Party, finds the idea that foreign aid is a contribution to a public good abstract at best (Interview 16.09.10).

However, there are signs that donor states increasingly view alleviating poverty and fostering development as global goals. According to Torbjørn Gaustadsæther,[38] there is today a more explicit recognition in the donor community that "it is in everybody's interest […] that poor countries do not remain poor […], stability and development in the South is important to the global economy, and it prevents spill-over effects such as migration [to the rich countries]" (Interview 12.05.10).

In fact, Jayaraman and Kanbur (1999) argue that the international donor community has embraced the notion of foreign aid as a contribution to public goods. Towards the end of the 1990s, the public good-perspective promised a welcomed new "rationale for foreign aid, closer to the security than to the solidarity agenda", resting

[38] Torbjørn Gaustadsæther is a Special Advisor at the Section for Development Policy at the Norwegian Ministry of Foreign Affairs.

more on "the direct spillovers of the lack of development in poor countries on to the well being of rich countries" (Jayaraman & Kanbur 1999: 419).

To sum up, the assumptions that foreign aid is a contribution to a public good and that donors view it as such are not unproblematic. However, they do represent an interesting and perhaps emerging perspective on foreign aid. In the remaining part of this chapter, I assume that foreign aid is a contribution to the public good "eradication of poverty", and consider how the characteristics of this good and the structure of the providing group can lead to Pareto suboptimal levels of aid.

4.3. The characteristics the good

International public goods come in different varieties. The problem of providing such goods depends on both the characteristics of the good itself and on the structure of the provision group (Hovi 1986: 337). With regards to properties of the good, two aspects in particular shape the provision problem (Hovi 1986: 338-340).

First, it matters whether the good is inclusive or exclusive. A good is inclusive if the consumption by one country does not subtract from the consumption by other countries. Although some benefits of eradicating poverty are exclusive—for instance market shares in emerging markets—I would argue that, in general, the benefits from poverty reduction are non-rival. Hence, the eradication of poverty is an *inclusive* good.

Second, it matters whether the good is "lumpy", i.e., can be provided only in some minimum amount, or is available in continuous quantities. Eradicating poverty can clearly be done to different degrees. Although the effects of further contributions level out as poverty disappears, there is no clear threshold where further efforts have no effect. Eradication of poverty thus qualifies as a *continuous* good.

Assuming that eradication of poverty is an *inclusive* and *continuous* good, what do these characteristics entail for its provision? The conventional view is that "instances of inclusive goods tend to be more 'benign' than those involving exclusive goods", but that continuous goods "typically will be more seriously undersupplied than lumpy goods" (Hovi 1986: 351-2).

Cases of inclusive goods are benign in the sense that every country receives all of the good, and thus face incentives resembling the case where the good in question is

of a private nature. Even if no one else contributes, each group member will benefit from providing some of the good; at least in small groups (Hovi 1986: 344).[39]

The fact that eradicating poverty is an inclusive good bodes well for its provision (compared with exclusive goods). However, its continuous nature has the effect that the incentives to contribute decline as the number of contributors increases. Although more contributions always increase the amount of the good, the temptation to free ride on the efforts of the other group members increases as more of the good is provided (Ibid.).

Adding to the challenge is that eradicating poverty is not something one or a few rich countries can do by themselves. Rather, as a public good it displays the characteristics of what Barrett (2007: 7) calls an *aggregate effort* good, whose provision depends on the combined efforts of all countries. According to Barrett (2007: 101), "public goods requiring aggregate efforts are particularly susceptible to free riding". With such goods, every country's contribution is perfectly substitutable for every other country's contribution. This has the effect that if one group of countries supplies more of the good, this adversely affects the rest of the countries' incentives to do the same. Indeed, "they may have an incentive to pare back" (Ibid.).

To sum up: based on the characteristics of the good we can expect "eradication of poverty" to be provided in a certain amount but at the same time undersupplied in the sense that not all the members of the provision group are likely to contribute. This prediction does not tell us much about what to expect with regards to Pareto efficiency. When will the equilibrium outcome be Pareto optimal, and, more important, when will all donors prefer full contribution? In the next section, I look at how the structure of the group under consideration affects the Pareto efficiency of the outcome.

4.4. The characteristics of the group

The provision group in this case is a set of donor states. In the literature on aid and public goods, little attention has been paid to the properties of the group. This is not surprising considering that the focus has been primarily on *one* group: the OECD do-

[39] In a large group, incentives to contribute are hampered by the fact that one member's efforts produce very little of the public good, while bearing all the cost of provision.

nor community, represented by the Development Assistance Committee (DAC) (e.g. Olson & Zeckhauser 1966; Dudley 1979; Mosley 1985; Hayashi 2002). However, I would argue that the international donor community consists of several donor groups; all with different properties (see section 4.5.1). In this section, I explore how some of these properties affect the Pareto efficiency of the voluntary provision of aid.

At least two aspects of the providing group shape the provision problem according to Hovi (1986: 338-340). More specifically, he distinguishes between small and big groups, and between symmetrical and asymmetrical groups. Symmetry or asymmetry in this case refers to equality or inequality in size among the actors providing the good.

Although both these aspects are relevant they do not capture one essential characteristic of eradicating poverty, namely the asymmetry of *interest*: some donors display an apparent interest in eradicating poverty, while others see foreign aid primarily as a foreign policy tool for achieving other objectives. To capture this element I add one property, the difference in interest, to the analytical scheme.

Unlike the properties of the good, which I assume to be constant, group characteristics vary across donor groups. In the following sub-sections, I examine how the group properties of asymmetry in interest, asymmetry in size, and group size affect the Pareto efficiency of the equilibrium outcome. Throughout the analysis I use the DAC donor group to illustrate the results. Before we begin the analysis, let us briefly review some theoretical expectations.

4.4.1 Theoretical expectations

With respect to group size, a classic finding in the literature on public goods is that voluntary contribution to public goods is more likely in *small* groups. However, in cases of inclusive goods, group size is often considered to be of less significance to the provision (Hovi 1986: 351). With regards to the Pareto efficiency of the outcome, the literature offers little guidance.

Regarding asymmetry, the conventional view is that *asymmetrical* groups, containing actors of different size, generally increase the likelihood that an inclusive, con-

tinuous good is provided in Pareto optimal quantities. Furthermore, in such situations, small actors tend to exploit big actors (Olsen & Zeckhauser 1966).

The reasoning behind this prediction is that any big actor will provide the amount of the good that it considers optimal. Since the good is inclusive and continuous, the small actors can then consume the good provided by the big actor, without having to contribute. Although this outcome is characterized "by an unequal distribution of gains among the players", it is Pareto optimal (Hovi 1986: 356).

As Hovi (1986: 356-357) points out, the fact that this outcome is Pareto efficient does not follow with necessity from the assumption of asymmetry. In my view, the situation described above is actually a special case that rests on the assumption that big actors want more of the good than small actors do. Often, this assumption is far from self-evident. In the case of "eradicating poverty", it seems outright wrong.

4.4.2 Asymmetry I: Interest

As argued, donors differ in their interest in eradicating poverty. We can thus expect donor countries to face different incentives to contribute to this end. Since we are dealing with a continuous, inclusive public good, I assume that all donors incur a marginal increase in utility from their own and others' contribution to eradicating poverty. However, I also assume that not all donors' utility functions are identical.

Consider two types of donors, labeled *altruistic* and *strategic*. These labels are not assumptions about motivation. Whether a donor is altruistic or strategic does not depend not on their rationale for giving aid, but on their incentives to contribute to eradicating poverty. The defining property of an *altruistic* donor is that its utility from adding to the public good always outweighs the potential utility of defecting. For the *strategic* donor, however, the utility of contributing to the good is outweighed by the utility of defecting once the good has been provided in a certain threshold amount.

The Schelling-diagram in Figure 4.1 depicts the utility (U) from playing contribute (denoted by C) and not contribute (denoted by D) for both altruistic (C_A and D_A) and strategic donors (C_S and D_S) as functions of the number of other contributors (z). For now, I assume that all donors are equal in every other way than interest.

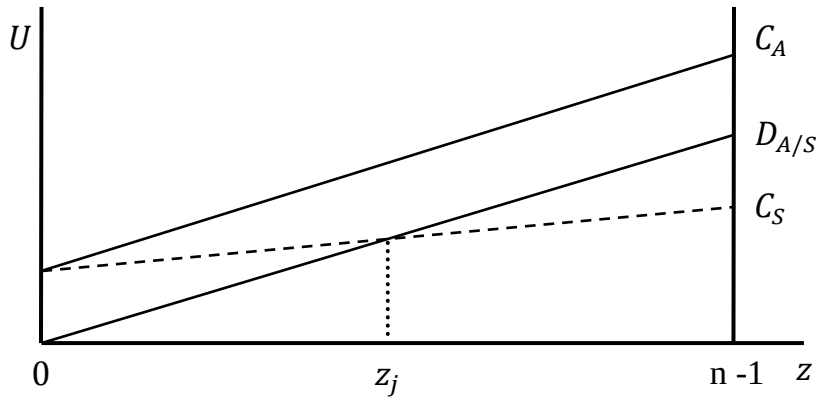

Figure 4.1: The utility curves of giving aid and not giving aid for altruistic and strategic donors

In this game, the altruistic donors face a game of Utopia while the strategic donors see it as a game of Chicken. The Nash equilibrium of the game depends on the mix of donor types. If the number of altruistic donors is bigger than or equal to z_j, the equilibrium outcome is that all altruistic donors contribute and all strategic donors defect. If the number of altruistic donors is less than z_j, the equilibrium becomes that all altruistic donors and some strategic donors contribute, and the rest defect. In all instances, there is a tendency for exploitation of the altruistic donors. The provision in this case may be Pareto suboptimal, as all donors may prefer full contribution to the outcome where only z_j donors contribute.

The model in Figure 4.2 does not take into account one special property of eradicating poverty, namely that all donors will probably make some sort of contribution. After all, not even the most aid critical government is likely to stop giving foreign aid entirely. Hence, a choice only between giving and not giving aid does not really capture the essence of this particular provision problem.

A better model would allow donors to make continuous choices regarding the size of their aid budgets. However, to keep the simplicity of a binary model, consider a situation where the strategic donors are already spending their threshold amount on foreign aid. In this game, all donors face a choice of either *increasing* their aid budget (denoted by C) or *not* increasing their aid budget (denoted by D). The new model is depicted in Figure 4.2.

In the revised model, the strategic donors have Prisoners' Dilemma (PD) preferences. They still incur a marginal increase in utility from contributing, but they now face clear incentives to free ride.

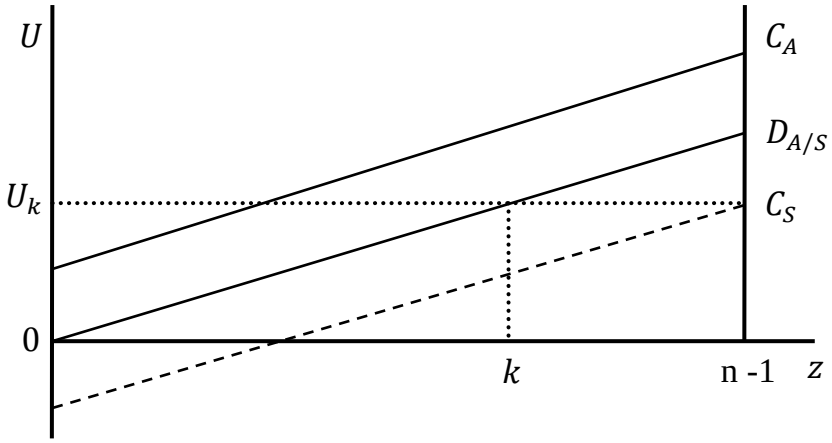

Figure 4.2: The utility curves of increasing the aid budget and not increasing the aid budget for altruistic and strategic donors.

In this game, the only Nash equilibrium is that all altruistic donors contribute while all strategic donors defect, regardless of the number of altruistic donors. When is this equilibrium Pareto sub-optimal? We see from the model that there is a tipping point: as long as $z < k$—i.e. the number of altruistic donors is less than k—the equilibrium outcome is Pareto sub-optimal. To see why, consider that less than k contributors give the strategic donors a utility of less than U_k, i.e., less than they would have gotten if all donors contributed. This shows that the ratio of altruistic to strategic donors within the group is crucial to whether the outcome is Pareto suboptimal or not.

Since donors in the real world come in different sizes, it is not really the *number* of altruistic donors that is the decisive factor. After all, one altruistic donor could be enough to make the outcome Pareto optimal if that donor is sufficiently big. To account for difference in size, we can apply the notion of player weights. In this case, each donor is assigned a weight according to its capacity for contributing, i.e. economic size.

Let z represent *not* the number of contributors, but the combined player weight of these contributors. Likewise, n is now not the total number of donors, but the combined player weights of all donors in the group. Furthermore, let n_A and n_S denote the combined player weights of altruistic donors and strategic donors, respectively. The following condition must hold for the equilibrium outcome to be Pareto suboptimal:

(5) $$\frac{n_A}{n_S} < \frac{z}{n-z}$$

Condition (5) tells us that, other things being equal, the smaller the proportion of altruistic donors, and the smaller the size of the altruistic donors, the higher the probability that the quantity of aid provided will be Pareto suboptimal.

The case of DAC

Is condition (5) met in the DAC group of donors? To answer this question, we need to divide the group into two sub-groups: altruistic and strategic donors. For this end, I simply use whether the donor in question has met the 0.7 aid target or not as a demarcation criterion. This gives us five altruistic and 17 strategic DAC donors, i.e., an altruistic-strategic ratio of 5 to 17.

To account for size, we can weigh each donor in terms of the smallest donor, which is Luxembourg. For instance, the United States equals 336 Luxembourgs. The combined player weight of the altruistic DAC donors is 51, while the corresponding player weight of strategic donors is 871, giving a ratio of $\frac{51}{871}$. Such a small number could mean that condition (5) is satisfied, i.e., that the aid provision is Pareto suboptimal and that all donors would prefer a multilateral increase in aid levels.

4.4.3 Asymmetry II: size

In this section, I consider the effects of asymmetry in size on the Pareto efficiency of the equilibrium outcome. I assume that economic size is directly proportional to a donor's potential contribution to the good. In order to isolate the effects of asymmetry, I first consider a (very) special case with only two donors, both of which are strategic. Later, I return to an N-player model and allow for altruistic donors.

The two-player model

Figure 4.3 depicts a game with two donors of different size: a small donor (SD) and a big donor (BD). Let c_S and c_B denote the cost of contribution for SD and BD, respectively. I assume that the benefit of more aid (B) is equally enjoyed by both actors, regardless of who contributes. Let p_S denote the proportion of the total increase that corresponds to SD and p_B the proportion that corresponds to BD ($p_S + p_B = 1$). Both players can either choose to contribute (increase their aid budget) or to defect (not increase their aid budget).

B = Benefit if both players contribute.
$c_{S/B}$ = The cost of contribution.
$p_{a/s}$ = The proportion of the total contribution corresponding to each donor.

		BD: Contribute	BD: Defect
SD	Contribute	$B - c_B$ $B - c_S$	Bp_S $Bp_S - c_S$
	Defect	$Bp_B - c_B$ Bp_B	0 0

Figure 4.3: An aid game with two donors of different size

Since both donors are strategic, they incur a negative utility by being the sole contributor, meaning that

(5.1) $$Bp_i - c_i < 0, \text{ where } i = SD, BD.$$

The strategic nature of the donors has two consequences in this game. First, it ensures that mutual defection is a Nash equilibrium: since being the sole contributor entails a negative utility, defection must be the best response to defection.

Second, it eliminates the outcome where both donors contribute as a potential Nash equilibrium. To see why, consider that in order for mutual contribution *not* to be an equilibrium outcome, a temptation to free ride must be present. In this game, the

payoff of free riding is Bp_j, where $j \neq i$. Hence, the following condition must hold for mutual defection to be the only Nash equilibrium:

(5.2) $$Bp_j > B - c_i$$

Closer scrutiny reveals that condition (5.2) is simply a restatement of (5.1), since $Bp_i = B - Bp_j$. Accordingly, we can rewrite (5.1) $Bp_i - c_i < 0$ as $(B - Bp_j) - c_i < 0 \leftrightarrow Bp_j > B - c_i$.[40] Hence, (5.2) is true by assumption.

Although mutual defection is the unique equilibrium, it is not necessarily Pareto suboptimal. For this to be the case, the following condition must hold:

(5.3) $$B - c_i > 0$$

Since B is assumed to be equal for both SD and BD while c_i varies with economic size, it is less likely that (5.3) holds for BD than for SD. After all, BD's cost-benefit ratio is less favorable than that of SD. In effect, the size of the biggest donor decides what the minimum benefit of full contribution (B) must be in order for all parties to gain from it.

Consider B as a function of the number and size of contributions. Specifically, let B be defined as

$$B = d\sum_{j=1}^{n} c_j, \text{ where } 0 < d < 1.$$[41]

In the two-player case under consideration:

$$B = d(c_B + c_S)$$

[40] **Proof**: $(B - Bp_j) - c_i < 0 \leftrightarrow B - Bp_j < c_i \leftrightarrow -Bp_j < c_i - B \leftrightarrow Bp_j > -c_i + B \leftrightarrow Bp_j > B - c_i$

[41] d cannot be equal to or greater than 1 because this would violate assumption (5.2). To see why, consider that if $d = 1$, then $B = c_S + c_B$. Substituting B for $c_S + c_B$ in (5.2) gives the following inequality (from SD's perspective) $c_B > c_S + c_B - c_S$, which can be rewritten as the plainly incorrect $c_B > c_B$.

This allows us to rewrite condition (5.3) (from the perspective of BD) as $d(c_S + c_B) > c_B$, which can be restated as

(5.5) $$d > \frac{c_B}{c_B + c_S}$$

It follows from (5.5) that the bigger the asymmetry between SD and BD, the bigger d must be in order for mutual defection to be Pareto suboptimal. Thus, other things being equal, strong asymmetry within a group of strategic donors decreases the chance that full contribution represents a Pareto improvement.

The N-player model

To restate the condition it in general terms, we can include the presence of altruistic donors. Consider an N-player game with both strategic and altruistic donors. The unique Nash equilibrium in such a game is that all altruistic donors contribute while all strategic donors defect.

Let C_S and C_A denote the potential contribution of all the strategic and all the altruistic donors, respectively. In the equilibrium outcome, the payoff for the strategic donors is dC_A. For full contribution to be a Pareto improvement on this outcome, the following condition must hold: $d(C_S + C_A\ ) - c_i > dC_A$. That is:

(5.6) $$d > \frac{c_i}{dC_S}$$

Condition (5.6) tells us that strong asymmetry within the sub-group of strategic donors increases the likelihood that the equilibrium outcome is Pareto suboptimal. In effect, the size of the biggest, strategic donor relative to the size of the sub-group of strategic donors determines whether the provision is Pareto efficient or not.

The case of DAC

In the DAC group, the United States is the biggest, strategic donor. Consequently, the Pareto efficiency of the current levels of aid in the DAC group depends on whether the United States views full contribution as an improvement on the status quo.

I assume that full contribution means that all donors in the group meet the 0.7 target. Currently, the DAC group is approximately 150 billion dollars short of full contribution—all of which correspond to the sub-group of strategic donors ($C_S = 150$). The US part of the shortfall is around 70 billion dollars, i.e., $c_i = 70$. Hence, in order for the United States to gain from full contribution $d > \frac{70}{150} \leftrightarrow d > 0.46$. In contrast, if all strategic DAC donors were of equal size: $d > \frac{1}{17} \leftrightarrow d > 0.05$.

Although the accuracy of these point predictions is questionable, they illustrate how the strong asymmetry within the strategic sub-group of DAC donors makes it less likely that the current provision is really Pareto suboptimal.

4.4.4 Group size [42]

Suppose that there are $N \geq 2$ donors in a group of which m are altruistic donors, and the rest $(N - m)$ are strategic. We assume that all strategic donors are of equal size, and have the same linear payoff functions. As before, all donors face a binary choice of increasing their aid budget (Contribute) or not (Defect). Let U_i denote the utility function for any strategic donor i.[43] We assume that the payoff for donor i is a linear function of the number of *other* donors that contribute (denoted by z), and its own contribution. Let $q_i \in \{0,1\}$, where to play Contribute means $q_i = 1$, and Defect means $q_i = 0$.

(5.7) $$U_i = b(z + q_i) - cq_i$$

In (5.7), c is the cost of contributing and b is the benefit incurred by i from a contribution from any country (including itself). Certain restrictions apply to these parameters. First, because the good is continuous, we assume the individual payoff always increases with the number of other contributors (z), that is, $b > 0$.

[42] The model I use in this section is borrowed from Scott Barrett (1998; 2003).

[43] I do not set up any utility function for the altruistic donors; it suffices to know that they will contribute no matter what.

Second, since i is strategic it cannot pay to be the sole contributor. Setting z to 0, we find that this holds true if $c > b$.[44] This assumption ensures that defection is the dominant strategy for the strategic donors, and consequently that the outcome where all altruistic donors contribute and all strategic donors defect is the only Nash equilibrium of the game.

When is this outcome Pareto suboptimal? If only the sub-group of altruistic donors contribute, the strategic donors get a payoff of bm. For the outcome where *all* donors contribute to be a Pareto improvement, the following condition must hold: $bN - c > bm$, that is:

(5.8) $$N > \frac{c}{b} + m$$ [45]

Restated in terms of the number of strategic and altruistic donors:

(5.9) $$N - m > \frac{c}{b}$$

(5.10) $$m < N - \frac{c}{b}$$

From (5.8) and (5.9), we see that the size of the whole group and the size of the altruistic sub-groups are intimately linked with regards to the Pareto efficiency of the outcome. Condition (5.8) shows that the minimum number of donors in the group for the equilibrium outcome to be Pareto suboptimal depends on how many of them are altruistic. Conversely, the maximum number of altruistic donors depends on the size the whole group.

Unlike N and m, the minimum number of strategic donors (for the outcome to be Pareto suboptimal) is unaffected by the size of the altruistic sub-group or the size of group as a whole. As (5.9) shows, the exact threshold depends solely on the individual cost-benefit ratio faced by the strategic donors. More specifically, (5.9) tells us that the minimum number of strategic donors needed for the equilibrium outcome to be Pareto

[44] **Proof**: $U_i(0, q_i) = b(0 + q_i) - cq_i = bq_i - cq_i$. Playing Defect would yield a payoff of 0 in this case, so Contribute must yield a payoff of less than 0, i.e., $bq_i - cq_i < 0 \leftrightarrow b - c < 0 \leftrightarrow b < c$

[45] $bN - c > bm \leftrightarrow N - \frac{c}{b} > m \leftrightarrow N > \frac{c}{b} + m$

suboptimal is the smallest integer greater than $\frac{c}{b}$. Since $c > b$, at least two strategic donors are necessary, but sometimes two will not be enough.

The case of DAC

In the DAC-regime there are 22 donors, of which 17 are arguably strategic. Consequently, for the equilibrium outcome to be suboptimal the individual cost-benefit ratio for the strategic donors must satisfy the following condition: $\frac{c}{b} < 17$.

To my knowledge, no one has undertaken a comprehensive study of the cost-benefit ratio of meeting the 0.7 target. Therefore, it is difficult to comment on the likelihood of condition (5.9) being satisfied in the DAC-regime. Although 17 is a fairly high cost-benefit ratio, such C-B ratios are not unheard of. For instance, several cost-benefit studies of climate change mitigation have returned C-B ratios well above 17 (See Barrett 2003: 378 for an overview).

4.5. Conclusion

In this chapter, I assumed that foreign aid is a contribution to the inclusive and continuous public good of eradicating poverty, and identified conditions under which the voluntary provision of this good is Pareto suboptimal. Specifically, I considered how three properties of the provision group—(i) asymmetry in interest, (ii) asymmetry in size and (iii) group size—must be in order for the provision to be Pareto suboptimal. The main findings were as follows.

First, regarding asymmetry in *interest*, the proportion of altruistic donors cannot be too high and the altruistic donors cannot be too big for the equilibrium outcome to be Pareto suboptimal.[46] Interestingly, this means that the presence of altruistic donors could potentially harm efforts to bring about a multilateral increase in aid levels by making the status quo preferable to the strategic donors of the group.

Second, asymmetry in *size* in the sub-group of strategic donors makes it more likely that the equilibrium outcome is Pareto suboptimal. The reason for this is that

[46] I considered two types of donors: altruistic and strategic. The defining property of an *altruistic* donor is that its utility from adding to the public good always outweighs the potential utility of defecting. For the *strategic* donor, however, the utility of contributing to the good is outweighed by the utility of defecting once the good has been provided in a certain threshold amount.

bigger donors have a higher cost of contribution, while consuming the same amount of the good as smaller donors (a consequence of the good being inclusive). Thus, big donors have less favorable cost-benefit ratios than smaller donors. In effect, whether the provision is Pareto suboptimal or not depends on the size of the biggest strategic donor relative to the strategic sub-group as a whole.

Third, regarding group size, the voluntary provision of the good is Pareto suboptimal when (i) the group as a whole is not too small (relative to the size of the altruistic sub-group) (ii) the strategic sub-group is not too small, and (iii) the altruistic sub-group is not too big.

Table 4.1 summarizes the findings.

Table 4.1: How the properties of the donor group must be in order for the voluntary provision of aid to be Pareto Suboptimal

	Composition	**Asymmetry**	**Numbers**
Whole group	Not too many altruistic donors	-	Not too small (relative to the number of altruistic donors)
Altruistic donors	-	-	Not too big (relative to the size of the whole group)
Strategic donors	-	Not too asymmetric	Not too small

4.5.1 International donor groups and Pareto inefficiency

Throughout the discussion, I have used DAC as an example of a donor group. However, the DAC group is not the only international donor group. I would argue that the European Union also qualifies as a donor group: the EU states have their own aid institutions and their own aid targets (see Table 2.2 and section 5.4.1). Table 4.2 shows the altruistic-strategic ratio and the asymmetry within the strategic sub-group for three different donor groups mentioned in this and the subsequent chapter: the DAC, EU-15 (all pre-2004 members), and EU-12 (members that acceded in or after 2004).

Table 4.2: Properties of different international donor groups

Group	**Altruistic-strategic ratio[1/2]**	**Asymmetry, strategic sub-group[3]**
DAC	.05	.47
EU-15	.11	.30
EU-12	.03	.42

[1]All donors that have met the aid target set by the group qualifies as altruistic (0.7% of GNI for DAC and EU-15, and 0.17% for EU-12).
[2] Measured in player weights where each donor is weighed in terms of the smallest donor in the group (Luxembourg in DAC and EU-15, and Malta in EU-12).
[3]Measured as the proportion of total aid shortfall that corresponds to the biggest strategic donor (the United States in DAC, Germany in EU-15, and Poland in EU-12).
Sources: DAC 2010b; World Bank 2010; EU 2010.

Table 4.2 shows that, with regards to the properties under consideration, the differences between the groups are small. First, all groups have low altruistic-strategic ratios. Although EU-15's ratio is over twice as big as the other groups', it is still not large. A low altruistic-strategic ratio makes it more likely that the status quo production is Pareto suboptimal.

However, all groups are notably asymmetrical, with one big strategic donor to which a significant part of the current aid shortfall corresponds. This makes it less likely that the current production is suboptimal. Once again, EU-15 differs from the other two groups by being markedly more symmetrical. Overall, it is impossible to conclude either way regarding the Pareto efficiency of the current aid levels in any of the donor groups considered here.

Chapter 5 Donor-donor games II: Compliance

5.1. Purpose and plan

In the previous chapter, I identified conditions under which the voluntary provision of foreign aid in a group of donors is Pareto suboptimal. In this chapter, I assume that these conditions hold, and that full contribution, meaning that all donors meet the group's aid target, would be a Pareto *optimal* outcome. The focus of this chapter is the design of inter-donor agreements to increase aid efforts. More precisely, I consider when such agreements will *fail* to induce compliance with aid targets.

The chapter is structured as follows. First, I briefly consider the criteria for an international agreement to induce compliance (section 5.2). Then, I turn to the issue of enforcement. International donor regimes could potentially enforce compliance with aid targets in order to realize a Pareto optimal outcome. However, enforcement is only effective if certain criteria are met. In sections 5.3, 5.4 and 5.5, I identify conditions under which different enforcement mechanisms *fail* to induce compliance with international aid agreements. [47]

5.2. Compliance and design of international agreements

Due to the anarchic nature of the international system, agreements between states are always, to some degree, uncertain. In domestic affairs, a government can ensure that agreements are held. However, at the international level—in the absence of a world government and a judicial system to enforce contracts—states cannot be expected to follow through on commitments that are not in their interest.

Under these circumstances, there are three possible reasons why the parties to an agreement may choose to comply. First, given that the other parties comply, there

[47] In this thesis, the term "international aid agreement" refers to agreements between donor countries on increasing foreign aid budgets.

may not be any incentive to defect. Second, it may be that one or more parties have incentives to defect but lack the ability to do so. Finally, it may be the case that at least one party has both the motivation and ability to violate the agreement, but that its incentives to defect are checked by some kind of enforcement mechanism (Hovi 1998: 73-74).

In the case of international aid agreements, the second possibility seems far-fetched; donor states certainly have the ability to refrain from increasing their ad budgets. The first possibility is not unthinkable, and it would certainly be the case in a group of only altruistic donors. However, I will not consider this scenario any further. This and the coming sections will be devoted to the third possibility: that compliance with international aid agreements can be sustained by enforcement.

A successful international treaty (meaning one where all participants honor their obligations), must meet certain criteria (Barrett 2003: xiii-xiv). First:

> A) It must be *individually rational*, which for our purpose means that no party can gain by failing to comply, given the treaty's design. [48]

Specified in game-theoretic terms, this criterion entails two things. First, the agreement must represent a Nash equilibrium, which Hovi and Areklett (2004: 5) refer to as a "minimal condition" for regime compliance. Being a Nash equilibrium may not be sufficient, however, when the regime relies on enforcement to sustain compliance. After all, a Nash equilibrium may be based on empty threats of punishment. Consequently, only the subset of Nash equilibria that are subgame perfect are good candidates for enforced international agreements (Hovi & Areklett 2004: 7).

However, individual rationality is not alone sufficient when the treaty relies on enforcement, in which case a second criterion applies:

> B) It must be *collectively rational*, which requires that it not be possible for parties to gain collectively by changing the treaty (Barrett 2003: xiii).

[48] It also entails that no non-party can gain by acceding or changing its behavior with regards to the issue at hand, given the choices of every other country. Furthermore, it means that no party can gain by withdrawing from the agreement, given the actions of every other country (party and non-party).

Criterion B) places another requirement on the equilibrium, as subgame perfection does not necessarily ensure collective rationality:

> Even if compliance is consistent with subgame perfection, it may be undermined by a collective incentive to renegotiate after a violation has taken place. It may simply be in the interest of all parties to let bygones be bygones, and resume cooperation without further delay (Hovi & Areklett 2004: 10).

In such situations, the threat of punishment is not credible, which in turn undercuts the incentives to comply in the first place. Hence, an enforced international agreement must be "renegotiation proof" in order to uphold compliance, meaning that all parties cannot gain collectively from dropping the punishment after a violation has taken place (Hovi 2008: 89).

In addition to A) and B), Barrett (2003: xiv) adds a third requirement for an agreement to induce compliance:

C) It must be "fair", i.e. perceived as legitimate by the parties.

According to Barrett (2003: xiv), fairness is important, as it reinforces the other requirements. In the long run, he argues, only fair treaties are likely to be complied with. In the forthcoming analysis, I simply assume that this criterion is met.

To sum up, compliance with an international agreement can only be expected when it is in the parties' interest to honor their obligations. The design of the agreement must reflect this fact. More specifically, it must meet the criteria of *individual* and *collective* rationality. In game-theoretic terms, the agreement must sustain compliance as a renegotiation proof Nash equilibrium. In the following sections, I show how (enforced) donor agreements on raising aid levels can fail to meet these criteria, and thus lead to Pareto suboptimal outcomes with less than full contribution.

5.2.1 Enforcement

In the absence of a third party (e.g. a court), the enforcement of international agreements must rely on self-policing by the parties. Several types of enforcement mecha-

nisms can be evoked for this purpose. A common distinction is between internal and external enforcement. *Internal* enforcement mechanisms are those that are confined to the issues of the agreement at hand, while *external* enforcement mechanisms rely on measures outside of the confines of the regime. When compliance is sustained by internal enforcement mechanisms only, the agreement is said to be *self-enforcing* (Hovi 1998: 81). I will primarily consider internal enforcement mechanisms, although I briefly look at external enforcement in section 5.5.

A further distinction in the literature on enforcement is between *decentralized* enforcement, which is done directly by the parties themselves, and *centralized* enforcement, which is administered through institutions empowered by the parties (Hovi & Areklett 2004: 3). Both of these are possible options for establishing a self-enforcing aid agreement. I consider decentralized enforcement in section 5.3, and centralized enforcement in section 5.4.

5.3. Decentralized enforcement: A viable option for DAC?

In this section, I consider a decentralized enforcement regime that relies on further transgression to punish non-compliance. This kind of enforcement mechanism is much discussed in the literature, and it is particularly interesting in this context as a possibility for sustaining compliance with the 0.7 target in the DAC regime. There are two reasons why decentralized enforcement of this kind could be a viable option for DAC.

First, the DAC-regime is not very centralized. The DAC itself amounts to little more than an international forum for donor countries. It issues guidelines, compiles statistics, and reviews the members' performance, but its mandate does not go beyond making "recommendations on matters within its competence to countries on the Committee" (DAC 2010a). To my knowledge, there have never been any serious proposals to expand the powers of the DAC. Hence, responses to non-compliance based on centralized enforcement mechanisms seem out of the question.

Second, the DAC-regime is not very complex, reducing the number of possible sticks and carrots within the regime to ensure compliance. In fact, the only (internal) response to non-compliance seemingly available to the members is defection, i.e., if you don't contribute, I don't contribute.

Can a decentralized enforcement scheme based on the threat of defection sustain compliance with an international aid target? Consider a group of N donors, equal in all aspects, including interest.[49] All donors must choose between Cooperate (i.e. increase their aid budget) and Defect (not increase their aid budget). Let $q \in \{0,1\}$, where to play Cooperate means $q = 1$, and to play Defect means $q = 0$. I assume that the utility for each donor is a linear function of the total number of donors that cooperates. More precisely, let U_i denote the utility of any donor i and be defined as:

$$U_i = b(z + q_i) - cq_i$$

where b and c are constants and z is the number of other donors that cooperate. We assume that $b > c > 0$ and $N > \frac{c}{b}$, which make the underlying game a Prisoners' Dilemma (see section 4.4.4). Assume that this game is repeated indefinitely and that future payoffs are discounted with a factor of w $(0 < w < 1)$.[50]

Barrett (2003: 280-1) has shown that decentralized enforcement based on the threat of defection *can* sustain full cooperation in a repeated PD game if the players agree to play the Getting Even strategy. I assume that the simplified version of Getting Even called *Penance* is used to sustain complaince.[51] Penance prescribes that a participant country cooperates unless another party has been the sole deviator from Penance in the previous period, in which case *Defect* is played (Asheim et al. 2006: 6-7). When will an agreement to play Penance *not* be self-enforcing in this game?

To meet the criteria of individual rationality, it cannot pay for any single donor to deviate from Penance under any circumstances, i.e., it must sustain cooperation as a sub-game perfect Nash equilibrium. It can be shown [52] that an agreement based on Penance is *not* individually rational and will *fail* to induce compliance if:

[49] For simplicity, I make the assumption that all donors are strategic.
[50] It can be shown that a self-enforcing agreement in a PD game is only possible in games where the time horizon is infinite or indefinite ((Hovi 2008: 82). In this case, I assume that the time horizon is indefinite and that the probability that the game goes on for another period is incorporated into the discount factor.
[51] Although there are non-trivial differences between Penance and Getting Even, these differences do not affect the equilibrium path (Asheim et al. 2006: 7).
[52] See appendix.

(6) $$w < \max\left[\frac{bz-(bN-c)}{(bN-c)+(b-c)}, \frac{b-c}{(bN-c)+(c-b)}\right]$$

Condition (6) tells us that sustaining full compliance through retaliatory defection is contingent on the discount factor being relatively high.

The discount factor is determined by two factors (Hovi 2008: 78). First, it is influenced by the discount rate: the degree to which future benefits and costs, assuming that they are certain, are discounted by the actors. It is difficult to assess how donors view future gains from giving aid. The fact that they set development goals with long timeframes *could* imply a high valuation of the future—or it could simply imply a wish to postpone costs. The short-term strategic use of much of foreign aid seems to indicate a stronger preference for immediate as supposed to long-term benefits.

Second, the discount factor is influenced by the inherent uncertainty of the future; there is always a risk that future benefits and costs will not materialize. With foreign aid, the future gains are particularly uncertain, for at least two reasons. First, due to the long time frame of many aid projects, conditions in the recipient country may change. A civil war, for instance, can instantly wipe out the gains from decades of successful aid intervention.

Second, since a one-size-fits-all template for development has proven elusive much of foreign aid is experimental in nature and the outcome can be uncertain at best. For instance, according to a USAID study, a big proportion of US aid to Africa is highly experimental and a relatively high failure rate is to be expected (Riddell 2007: 178). The inherent uncertainty of aid giving could imply a low discount factor, which could be a real impediment to establishing a self-enforcing aid agreement based on decentralized enforcement.

Even if the discount factor is high enough so that Penance is individually rational, the agreement may not be *collectively* rational, that is, able to sustain compliance as a renegotiation proof equilibrium in the repeated game. The notion of renegotiation proofness implies that the parties cannot gain collectively by resuming cooperation after a violation has taken place.

Obviously, the defector would prefer to resume cooperation without punishment. The effective criterion is that the non-defectors cannot gain (collectively) by returning to cooperation instead of carrying out the punishment. This implies that the benefits (for the non-defectors) of carrying out the punishment must be bigger than the benefits of resuming cooperation immediately, i.e., $b > bN - c$. Plainly, if the number of donors (N) is too high, a self-enforcing agreement based on Penance is *not* collectively rational. More precisely, the following condition must hold:

(7) $$N > \frac{c}{b} + 1$$

Since the exact limit for N depends on the parameters c and b, it is difficult to draw any concrete conclusions from (7). However, as Barrett (2003: 281) points out, collective rationality clearly limits the set of viable international self-enforcing agreements.

In addition to the challenges captured by (6) and (7), an enforcement regime based on retaliatory defection is morally problematic as well. Responding to low quantities of aid by lowering them even further could severely affect the global effort to eradicate poverty. In the end, an enforcement mechanism that punishes the poor is unlikely to be a feasible alternative.

To sum up, decentralized enforcement based on retaliatory defection does *not* seem like a viable option for enforcing aid targets. In part because of the inherent challenges of sustaining compliance through decentralized enforcement—captured in conditions (6) and (7)—but also due to the specific characteristics of aid giving. First, the likelihood that donors heavily discount the future benefits of foreign aid is an impediment to this kind of enforcement regime. Second, an enforcement regime based on punishing the poor for the transgressions of the rich would be (highly) morally questionable.

5.4. Centralized enforcement

Although the DAC regime is highly decentralized and will likely remain so, there are examples of more centralized aid regimes, most notably the EU regime. Sustaining

compliance by means of centralized enforcement is an intuitive way of sidestepping some the problems identified in the previous section. However, centralized enforcement is no panacea. In this section, I identify conditions under which a centralized enforcement *fails* to induce compliance with aid targets.

5.4.1 EU vs. DAC

The European Union has developed its own donor framework, including its own aid targets. Since the EU donor regime consists of donors who vary markedly in economic development, the donor group is divided in two subgroups with different aid targets.

All the EU members that are also DAC members have committed to spend 0.7% of GNI on ODA by 2015. In addition, these EU states have set an interim ODA/GNI target of 0.51%, to be reached by 2010. I will refer to this group as EU-15, as it consists of all 15 pre-2004 member states. The rest of the EU member states (those who acceded in or after 2004) have aid targets of 0.33% of GNI by 2015 and 0.17% by 2010. I will refer to the latter group as EU-12, or new member states (NMS). In addition to the individual targets, the EU regime has a *collective* aid target of spending 0.56% of combined GNI on ODA (EU 2010: 14).

Overall, the EU-15 donors have a decent track record of meeting their aid commitments. Three EU-15 states (Denmark, Sweden, and the Netherlands) that were already spending 0.7% of GNI on ODA when the target was set,[53] have kept their aid levels above the target. One state (Luxembourg) has joined the 0.7% group, and one more (Belgium) is set to join this year. Four additional states (the United Kingdom, Ireland, Spain and Finland) are on track to reaching the interim target of 0.51% of GNI by 2010. However, the remaining six EU-15 states will not meet the interim target and will also fail, at present rates, to reach the 0.7% target by 2015 (EU 2010: 16).

In the EU-12 group, the picture is a bit gloomier. Although two states (Cyprus and Malta) are overachieving—reaching the interim 0.17% target one year early—the remaining ten states have some way to go, and will not reach the interim target (EU 2010: 16-17).

[53] In an EU context this means at the Barcelona summit in 2002. The targets were later revised in *The European Consensus on Development* (2005).

Difference in performance

As a group, the EU donors are much closer to their aid targets than the DAC donors are. The EU states are projected to collectively spend 0.45-0.46% of GNI on ODA, in 2010 (EU 2010: 15)—about 0.010 percentage points short of the collective target. In contrast, collective ODA/GNI ratio for the DAC donors is projected to be merely 0.33% (DAC 2010b).

Why is the EU regime more successful in increasing aid levels than the DAC regime? Comparing the two regimes, one could argue that the odds are stacked in favor of the EU regime. In particular, the EU regime seems to have a more benign mix of donors. For instance, with four G 0.7 countries among its 15 members, the EU-15 has a substantially higher proportion of altruistic donors than DAC (see Table 4.2). However, the EU regime also induces more aid efforts from its *strategic* donors than DAC does. Since over half of the EU donors are also DAC members, we can compare the difference in effort between EU and non-EU states within the sub-group of strategic DAC donors. When crunching the numbers, an interesting pattern emerges.

During the 1990s, the difference between the aid efforts of the (strategic) EU and non-EU members of DAC was infinitesimal (on average the ODA/GNI ratio for EU donors were 0.005 percentage points higher than for non-EU donors). When the inchoate EU regime forms at the start of the millennium (the first joint EU declaration on ODA increase is at the Barcelona summit in 2002), the difference starts to increase. The chart below shows the average ODA/GNI ratio for EU and non-EU DAC members for the last decade.

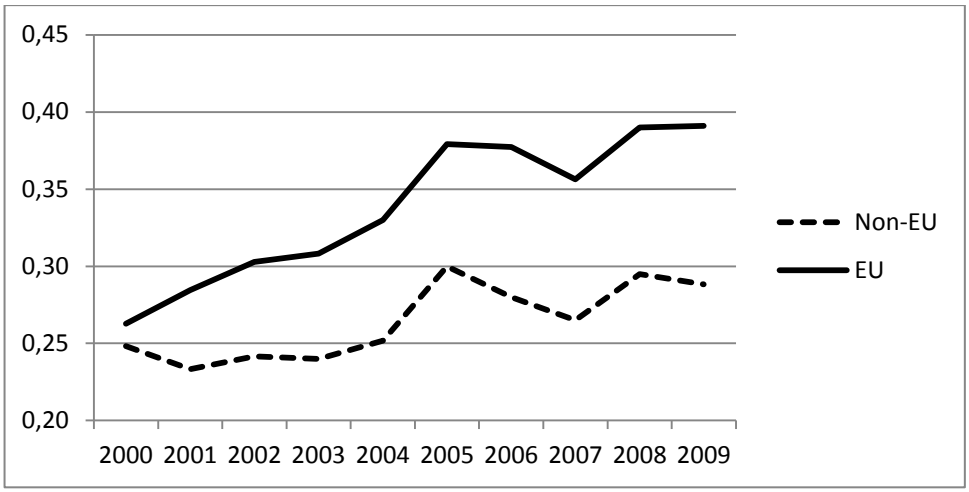

Figure 5.1: Average ODA/GNI ratio for strategic DAC donors, 2000-09

Source: DAC 2010b

As we see from Figure 5.1, starting out nearly identical, the EU donors gradually perform markedly better. In 2009, European (strategic) DAC donors contributed, on average, 0.39% of GNI to ODA, while non-European strategic donors contributed, on average, 0.29% (DAC 2010b). This development implies that the EU regime is, in fact, more effective in inducing its members to increase aid levels, something which other scholars have noted as well:

> So far, no […] international regime exists to enforce international [aid] commitments that governments make. […] The only exception to this is emerging slowly – the commitments of the European Union. It has become almost an obligation of EU member states to commit to provide a certain amount of GNI in ODA for EU developmental activities (Stokke 2009: 479).

Difference in structure

The main difference between the DAC and the EU regime is the degree of centralization and complexity, both of which affect the prospect of inducing compliance with aid targets. The European Union remains the closest thing to a supra-national authority in the international system, and it permeates every political field in Europe. Consequently, the EU donors operate in a much more complex and centralized environment than other DAC donors do.

According to Hovi (1998: 110-111), the "existence of a complex network of treaties among a given set of countries should serve to increase the credibility of each

one of these treaties". The reason is that in such an environment the states have many channels through which they can react to each others' actions. This makes cooperative behavior more likely even in the absence of any enforcement mechanisms as "[t]he mere knowledge that possibilities [for retaliation] exist could easily render explicit threats redundant" (Hovi 1998: 111).

In addition to complexity, the centralization of power could help explain the EU donor states' better record on delivering on aid commitments. In a legalized framework such as the European Union, enforcement can be decoupled entirely from the incentives of the other parties. Such a solution does, according to Hovi & Areklett (2004: 12), "not only solve the problem of renegotiation. It [also solves] the credibility question raised by the notion of subgame perfection".

However, centralized enforcement of aid targets must meet certain criteria in order to be effective. In the next sub-sections, I consider how a strong regime, i.e., a regime that can make *credible* threats and promises, may *fail* to induce compliance with aid targets.

5.4.2 The model

In order to be effective, centralized enforcement sustained by credible threats and promises must meet certain conditions. In particular, the reaction to non-compliance must be such that—rather than be non-compliant and have the threats effectuated or the promise unfulfilled—the donor prefers to comply with the regime's demands (Hovi 1998: 54).

Consider a two-stage game with two players, the donor D and the regime R. In the first stage, R sets an aid target t—between 0 and 1% of GNI—for D and formulates the reward for reaching the target (r) and/or a punishment for not reaching the target (p). In the second stage, D decides its aid budget, either complying with the target or not. Figure 5.2 depicts the game.

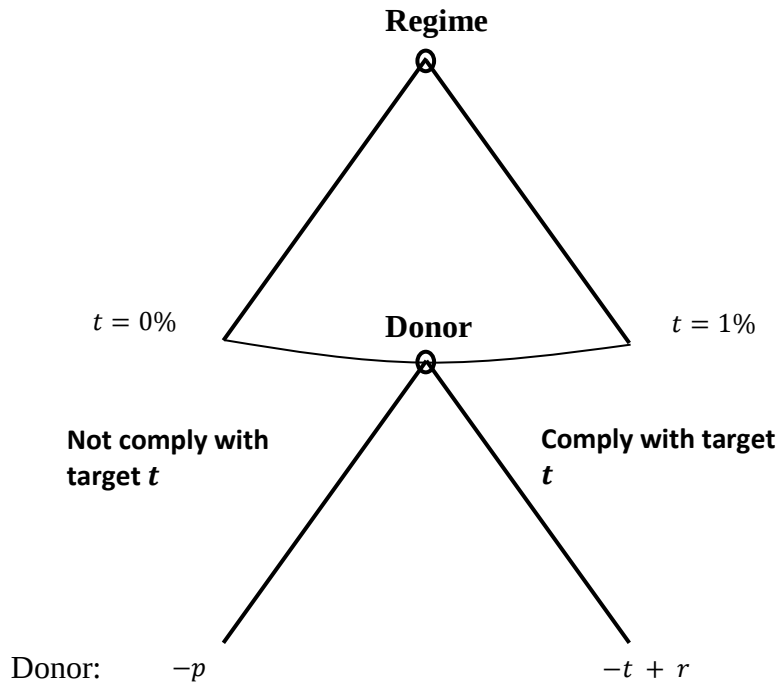

Figure 5.2: The regime-donor game.

Formally, R will *fail* to induce D to comply with the aid target if:

(8) $$-p > -t + r$$

which can be restated as:

(8.1) $$t > p + r$$

(8.2) $$r < t - p$$

(8.3) $$p < t - r$$

Conditions (8.1) to (8.3) tell us that centralized enforcement of an aid target may fail to induce compliance if: (i) R sets the target too high, (ii) makes the reward too small or (iii) makes the punishment too light.

Condition (8) does not seem like an insurmountable obstacle to effective enforcement of aid targets in a centralized regime such as the European Union. Yet enforcement mechanisms designed to induce compliance with the EU's aid targets are

scarce. Moreover, in the few cases where aid contributions *are*, to some degree, enforced, the full enforcement potential is not utilized. I briefly consider two examples of (attempts of) centralized enforcement of aid contributions in the European Union: (i) when prospective member states are asked to increase their aid budgets in order to accede, and (ii) the possibility of incorporating aid contributions in the EU budget. I argue that in the first case, demands were not sufficiently *clear* for enforcement to be effective. In the second case, the (proposed) demands are not sufficiently high such that the outcome will likely remain Pareto suboptimal.

5.4.3 When demands are unclear: The EU and the NMS

Membership in the European Union is valuable. It provides access to the European common market, funding from the EU's structural fund, and alignment to the political stability of the European Union. In other words, membership in the European Union is a big carrot, especially for countries lacking in economic development. This gives the European Union leverage over prospective members, something that is exploited during accession talks to influence policy of would-be member states. Development policy is no exception. New EU members are expected to live up to the EU *aquis communautaire* on development cooperation meaning, among other things, a commitment to increase foreign aid (Hoebink 2010: 181-182).

Consider the case of the Czech Republic. A member of the European Union since 2004, it promised during accession talks to reach an ODA/GNI ratio of 0.1% by accession (Granell 2005: 6); and so it did. In 2004, the Czech Republic provided 0.11% of GNI as ODA, up from 0.03% in 2000. In real terms, the Czech Republic increased its ODA fourfold in preparation for accession to the European Union (DAC 2010b).

The same pattern is evident among other new member states (NMS). Although aid data is sketchy for these countries, as most of them do not follow DAC guidelines, the trend seems to be a rapid increase in aid efforts during the pre-accession period

(see Table 5.1).[54] In light of this, it seems reasonable to assume that linkage to EU accession induced the NMS to increase their aid budgets.

However, the promise of EU membership may not have been used to full effect regarding ODA levels. Specifically, the demands were not *clear* enough. In order for a promise to be effective, it must be sufficiently clear, meaning that "the message it tries to convey must be understood by the target" (Hovi 1998: 16). This has two aspects. First, it must be clear to the target what exactly the sender wants. Second, the target must understand what the consequences of not complying with the sender's demands will be (Ibid.).

In the case under consideration, the NMS did not face any concrete aid targets before *after* accession. During the preparation period it was clear that "the aid provided by [the NMS] is not sufficient for a EU member state", but at the same time "[it was] not clear […] what the EU's Monterrey commitment on increased aid volumes [would] mean for new member states" (Granell 2005: 6). It was not until 2005—one year after membership had been granted—that the NMS committed to real aid quantity targets (0.17% by 2010 and 0.33% by 2015). An unequivocal stance on exactly what was demanded of the NMS with regards to ODA levels would presumably have been more efficient. This shows how lack of clarity can undermine the enforcement of aid contributions—even when the reward for compliance is great.[55]

Even when used to maximum effect, linkage to accession has its clear limitations when it comes to induce compliance with long-term aid targets. Plainly, once accession has been secured, the member states loose the incentive to increase aid efforts—or even sustain the effort at current levels. Table 5.1 shows how the rapid increase in ODA/DNI ratios from 2001 to 2006 for the NMS—covering the pre-accession period—was followed by stagnation, and for some states even decline, in the subsequent period (2006-2009). In 2009, TRIALOG, a NGO, concluded that "it is be-

[54] Unfortunately, I do not have data on aid levels in 2004 (the year of accession) for all NMS, so the period 2001-2006 is a stand-in for the pre-accession period.

[55] In addition to unclear demands, the threat of not granting accession may not have been credible in the case of development policy, i.e., the European Union may not have been a strong regime in this case. Development policy was considered one of the least important chapters in the accession talks, and "[o]nly scant attention was paid to development cooperation" (Grimm and Harmer 2005: 11). Furthermore, most of the requirements in this chapter were "soft", i.e., based on political rather than legal commitments (Ibid.). Overall, development policy was not a priority, and it was far from obvious that accession would be in jeopardy if the demands in this chapter were not met.

coming evident that the vast majority of the NMS will not make even their modest ODA pledges by [2010]" (TRIALOG 2009: 1).

Table 5.1: ODA/GNI ratios for the NMS and change in ODA/GNI ratios in the periods 2001-06 and 2006-09

	ODA as % of GNI			Change (in %-points)	
Country	**2001**	**2006**	**2009**	**01-06**	**06-09**
Poland	0.02	0.09	0.08	0.07	-0.08
Czech Republic	0.05	0.12	0.12	0.07	0
Slovenia	0.13	0.12	0.15	-0.01	0.03
Slovak Republic	0.06	0.10	0.08	0.04	-0.02
Hungary	0.04	0.13	0.09	0.09	-0.04
Cyprus	0.02	0.15	0.17	0.13	0.02
Lithuania	0.02	0.08	0.14	0.06	0.06
Latvia	0.02	0.06	0.08	0.04	0.02
Estonia	0.01	0.09	0.11	0.08	0.02
Malta	0.01	0.15	0.20	0.14	0.05
SUM				**0.71**	**0.06**

Source: Granell 2000; EU 2010.

5.4.4 When demands are not high enough: Budgetisation

As argued, linking aid efforts to accession has its obvious limits. Once membership is secured, the incentives to keep complying with the aid target evaporate. Hence, accession linkage must be combined with other enforcement mechanisms in order to sustain long-term compliance with aid targets. One such mechanism that has been heavily debated within the European Union is *budgetisation* of aid contributions from member states.

Budgetisation refers to incorporating member state contributions to EU developmental projects into the EU budget. Due to the EU budget rule of "non-allocation" specific revenue cannot be allocated to a specific expenditure, effectively bundling the aid money with the other contributions to the EU system (Faria et al. 1998: 11). In effect, budgetisation would link aid contributions to continued membership in the European Union.

Some aid is already financed over the EU budget, but the biggest chunk of EU aid, the European Development Fund (EDF), is not. As it has been since its conception in 1958, the EDF is funded by voluntary contributions from member states. The exact amount and the financial burden-sharing are the result of inter-governmental negotiation (Grimm 2006: 4). It should come as no surprise at this point that "the actual delivery of aid […] has been consistently below commitments" (EU 2003: 14).

If budgetisation of all EU aid were to become a reality, it would no doubt be an effective coercion mechanism. In addition to being severe (as an ultimate consequence EU membership is at stake) and credible, it would also be clear and complete with unambiguous demands placed on each member state.[56] Budgetisation would, in effect, make contributions to EU development projects mandatory in the sense that "Member States cannot opt out nor reduce their contribution" (Faria et al. 1998: 17).

However, EU aid is only one part of total aid spending by EU donors. Thus, total aid levels could not be expected to increase. Strategic donors could simply reduce their other aid expenditures under such a scheme, keeping the size of their aid budget constant. This illustrates the limits of making some aid spending mandatory; it only sets a floor below which aid budgets cannot drop. If this floor does not equal the aid target, the situation is likely to remain Pareto suboptimal.[57]

5.5. A note on external enforcement

So far in this chapter, I have reviewed the difficulties of establishing self-enforcing inter-donor aid agreements. It may very well be that creating a self-enforcing aid agreement is not feasible. If not, one may have to look outside the regime for enforcement options:

> If the parties to a given agreement suspect – or even know – that it will not be self-enforcing, it is important that they are able to invoke other mechanisms which can make their commitments credible (Hovi 1998: 103).

[56] The contribution of any member state would be calculated on the basis of GNP (Farias et al. 1998: 11).
[57] However, the fact that the member states have blocked budgetisation (Grimm 2006: 4) raises the question of whether they really view the current situation as suboptimal.

How can donor states increase the credibility of their aid commitments? Within the European Union, the EU Commission has been preoccupied with this question:

> [T]he EU now needs to demonstrate how to get back on-track to reach the 0.7% ODA/GNI target and to prepare a *credible* pathway for bridging the gap to meeting the 2015 deadline (EU 2010: 18, emphasis added).

In its report before the latest EU Council meeting on the MDGs (in june 2010), the EU Commission recommended several actions to demonstrate the EU's resolve. First, all member states should publish national action plans where they reconfirm the aid target and establish a realistic and verifiable plan for reaching it. Second, an internal "ODA peer review" process should be created to monitor the progress of each member state and make recommendations for improved performance (much like the DAC peer review process). Finally, member states should consider "self-binding" political and legal mechanisms like ring-fencing ODA goals[58] or enacting national legislation on ODA levels (EU 2010: 18-19). The EU council, however, did not acquiesce to the Commission's recommendations and made no mention of national action plans, internal ODA review, or self-binding mechanisms in their conclusions (Concord 2010b).

In the absence of a centrally coordinated effort, some donors have taken private initiatives to demonstrate commitment to their aid targets. Belgium has made reaching the 0.7% target by 2015 a national law, although no conditions are set on annual increase. In the UK, a similar proposal to make spending at least 0.7% of GNI on ODA from 2013 mandatory is currently being examined by the British parliament. Both Ireland and Sweden have enshrined national ODA targets in their annual budget law. In addition, several EU states are developing politically binding multi-year plans to reach their aid targets (EU 2010: 17-18).

These efforts are probably too fragmented to make up for the lack of other effective enforcement mechanisms. However, they illustrate an increasing willingness on the part of donor countries to increase the credibility of their aid commitments. The result will surely be more aid, even if total aid levels remain Pareto suboptimal.

[58] Ring-fencing is a promise not to make cuts in a certain part of a budget.

5.6. Conclusion

When the voluntary provision of aid is Pareto suboptimal, enforcing aid contributions could potentially realize a Pareto optimal outcome. In this chapter, I considered how the legal and political framework in which donor countries operate may fail to sustain compliance with aid targets—and keep aid levels Pareto suboptimal. More precisely, I looked at how failure to meet the criteria of collective and individual rationality can impede the establishment of self-enforcing aid agreements. The findings can be summarized as follows.

First, a decentralized enforcement regime based on retaliatory defection as punishment will unlikely be a feasible option for international donor regimes; in part because the discount factor is likely to be small, but also due to moral concerns. I did not considered other forms of decentralized enforcement.

Second, a centralized, complex regime will likely be more effective in inducing compliance than a decentralized regime—as implied by the better performance by EU donors compared with other DAC donors. It is reasonable to assume that at least some of the difference in performance is due to the centralized enforcement mechanisms found within the EU regime. However, I concluded that the enforcement potential of the European Union is not used to full effect when it comes to sustain compliance with aid targets.

Finally, in the absence of self-enforcing aid agreements, external enforcement mechanisms may be evoked to sustain compliance. More specifically, donors can increase the credibility of their aid commitments by, for instance, enshrining them in national legislation or binding their hands politically by ring-fencing aid budgets. Some donors have taken this course of action, but currently these efforts seem too fragmented to help sustain compliance with international aid goals.

Table 5.2 (next page) provides an overview of the situations examined in this chapter.

Table 5.2: Situations where the quantity of aid remains Pareto sub-optimal

Basic condition	Situation		Outcome	Case
The voluntary provision of aid is Pareto suboptimal	No enforcement		All altruistic donors contribute while all strategic donors defect	DAC
	Decentralized enforcement where conditions (6) or (7) is satisfied		All strategic donors defect	Hypothetical
	Centralized enforcement	The reaction to non-compliance satisfies condition (8)	The donor prefers not to comply with the aid target	Hypothetical
		Linking compliance to accession, demands are not clearly stated	Some increase in aid efforts up until accession, then aid levels stagnates or declines	EU and the NMS
		Including only a proportion of ODA in the regime budget	All strategic donors adjust their non-regime aid so that overall aid efforts remain the same	Hypothetical, but based on issue of budgetisation of EDF funds.
	Fragmented external enforcement		More aid is given, but the situation will likely remain Pareto suboptimal	EU

5.7. Appendix

5.7.1 Conditions for Penance to be a subgame perfect Nash equilibrium

Penance is a Nash equilibrium in the repeated game only if it does not pay to defect for one period and then return to compliance (given that the other players play Penance). Therefore the utility of compliance in both periods must outweigh the utility of defection in period t and returning to compliance in $t+1$, i.e. $bN - c + w(bN - c) \geq bz + w(b - c)$. Solving for w gives:

$$w \geq \frac{bz - (bN - c)}{(bN - c) + (b - c)}$$

For Penance to be subgame perfect it must prescribe equilibrium behavior also in the case of violation by one of the parties. Assume that state j deviated in the previous round, in which case Penance prescribes that j play Cooperate while everyone else plays Defect in period t and a return to full cooperation in $t+1$. Obviously, deviating from Penance is not rational for any other donor than j since it would loose the gain of $b - (2b - c)$ in period t and, in addition, be punished in $t+1$. For donor j it pays to accept the punishment and return to cooperation if $b - c + w(bN - c) \geq 0 + w(b - c)$, i.e. if:

$$w \geq \frac{b - c}{(bN - c) + (b - c)}$$

Consequently, the strategy profile where all donors play Penance is *not* a subgame perfect Nash equilibrium if:

$$w < \max\left[\frac{bz - (bN - c)}{(bN - c) + (b - c)}, \frac{b - c}{(bN - c) + (c - b)}\right]$$

Chapter 6 Summary

Why do donor countries not fulfill their aid promises? In this thesis, I have looked at one possible answer, namely that donor countries *want* to honor their aid commitments but that circumstances pertaining to their strategic environment check their incentives to do so. The research question was as follows:

How can the current situation with lower-than-promised levels of aid be unsatisfactory for donor countries?

To investigate this question in a systematic fashion, I set up formal models of interactions and used game theory to find the conditions for certain outcomes to materialize. Specifically, I looked for outcomes where a donor would prefer an alternative outcome where more aid is given. I considered two types of games: donor-recipient games and donor-donor games.

6.1. Donor-recipient games

Regarding donor-recipient interaction, the main mechanism that may lead a donor to give less aid than it would ideally prefer can be summarized as follows:

(1) A donor may want to give, but only on the condition of certain behavior on the part of the recipient. If the donor knows, believes or experiences that the recipient will or does not conform to this behavior the outcome could be that the donor restricts aid, even though it would ideally prefer to give more.

Mechanism (1) is well established as an impediment to aid flows. In the literature, the focus has mostly been on conditionality failure, i.e., when aid is withdrawn because of failure on the part of the recipient to meet certain demands. In chapter 3, I argued that, under such circumstances, the donor might prefer that the recipient had complied with the donors' demands and that aid had continued to flow.

However, mechanism (1) goes beyond the issue of conditionality. General distrust between a donor and a recipient can stop the process at an even earlier stage. If a donor believes that a prospective recipient is unlikely to comply with the donor's wishes, the donor might abstain from entering into a bilateral aid agreement in the first place, even if it would (ideally) prefer to do so.

6.2. Donor-donor games

Regarding donor-donor interaction, the main mechanism can be summarized as follows:

(2) Donors may see foreign aid as a contribution to an international public good and be tempted to free ride on the efforts of each other. If the properties of the good and the providing group are such that the voluntary production is Pareto inefficient and effective enforcement mechanism to induce increased efforts are absent, the resulting quantity of aid is Pareto suboptimal.

Mechanism (2) represents a novel way of looking at multilateral commitments to increase aid spending, such as the 0.7 target. My discussion of (2) had two parts. First, in chapter 4, I found the conditions for the voluntary provision of foreign aid to be Pareto suboptimal. More specifically, I looked at how properties of the donor group influence the Pareto efficiency of the equilibrium outcome. I found that the provision of aid is Pareto suboptimal when (i) the group is sufficiently big, (ii) the proportion and size of altruistic donors is small, and (iii) the sub-group of strategic donors is not too asymmetric in economic size.[59]

Second, in chapter 5, I looked at how an international aid agreement between donors on increasing aid efforts could fail to induce compliance, and thus fail to realize a Pareto optimal outcome. I did not consider a saturated list of possible treaty designs, but concentrated on two possibilities: (i) an agreement based on decentralized enforcement where violations are punished with further violations, and (ii) an agree-

[59] The defining property of an *altruistic* donor is that its utility from adding to the public good always outweighs the potential utility of defecting. For the *strategic* donor, however, the utility of contributing to the good is outweighed by the utility of defecting once the good has been provided in a certain threshold amount.

ment based on centralized enforcement where compliance is sustained by rewards and punishments by a regime.

I concluded that decentralized enforcement based on retaliatory defection is probably not a feasible option for donor regimes, but that a centralized enforcement scheme could potentially induce compliance in such a regime. However, in the centralized regime I considered, the European Union, aid targets are *not* enforced efficiently—if at all. I also briefly considered the possibility of evoking external enforcement mechanisms. I found such mechanisms unlikely to sustain a Pareto optimal outcome as long as they are employed in a fragmented way, as currently is the case.

6.3. Conclusion

To what extent do the mechanisms identified in this thesis explain why donor countries do not deliver on their aid promises? Throughout the discussion, I have provided examples and anecdotal empirical support showing that these mechanisms are, at least, *part* of the explanation. Rather than giving a full account of donor stinginess, the most important contribution of this thesis is the systematic examination of an argument about donor behavior that has—to my knowledge—not been considered explicitly before.

Literature

Alesina, Alberto & David Dollar (2000) ”Who Gives Foreign Aid to Whom and Why?”, *Journal of Economic Growth* 5: 33-63.

Asheim, Geir B., Camilla B. Froyn, Jon Hovi and Fredric C. Menz (2006) “Regional versus Global Cooperation on Climate Control”, *Journal of Environmental Economics and Management* 51 (1): 93-109.

Barrett, Scott (1998) “A Theory of International Co-operation”. Working paper. Available online (10.10.2010) URL: http://ssrn.com/abstract=123441

Barrett, Scott (2003) *Environment & Statecraft*: *The Strategy of Environmental Treaty-Making*. New York: Oxford University Press.

Barrett, Scott (2007) *Why Cooperate? The Incentive to Supply Global Public Goods*. New York: Oxford University Press.

BBC (2009) “Musharraf admits US aid diverted” BBC News, 14. September 2009.

Berthélemy, Jean Claude (2005) ”Bilateral Donors` interest vs. Recipient`s Development Motives in Aid Allocations: Do All Donors Behave the Same?”. Working Paper. Paris: University of Paris.

Boulding, Carew and Susan D. Hyde (2004) “Democratization and Foreign Aid: When do donors withdraw aid and why?” Draft Prepared for Western Political Science Association Annual Meeting Portland, OR March, 2004. Available online (05.05.10) URL: www.allacademic.com/meta/p87880_index.html

Browne, Stephen (2006) *Aid and Influence. Do Donors Help or Hinder?* London: Earthscan.

Burall, Simon, Simon Maxwell and Alina Rocha Menocal (2006) “Reforming the international aid architecture: Options and ways forward”. Working Paper 278. London: Overseas Development Institute.

CIA.gov (2010) *The World Factbook: Zimbabwe*. (23.05.10) URL: https://www.cia.gov/library/publications/the-world-factbook/geos/zi.html

Clay, Edward, Matthew Geddes and Luisa Natali (2009) ”Untying Aid: Is it working? An Evaluation of the Implementation of the Paris Declaration and of the 2001 DAC Recommendation of Untying ODA to the LDCs”. Copenhagen: Danish Institute for International Studies. Available online (12.04.10) URL: http://www.oecd.org/department/0,3355,en_2649_18108886_1_1_1_1_1,00.html

Clemens, Michael A. and Todd J. Moss (2005) “Ghost of 0.7%: Origins and Relevance of the International Aid Target”, Working Paper 68. Washington D.C: Center for Global Development.

CNN (2010) "UN: Tsunami damage 'unprecedented'" CNN.com, 28. December 2004. (15.10.10) URL: http://edition.cnn.com/2004/US/12/27/un.tsunami/

Coate, Stephen (1999) "Altruism, the Samaritan's Dilemma, and Government Transfer Policy", *The American Economic Review*. 85 (1): 46-57.

Concord (2010a) "Aidwatch update: EU Aid in Jeopardy?". Available online (09.04.2010) URL: http://www.concordeurope.org/Files/media/extranetdocumentsENG/NavigationPrincipale/06.Publications/06_3_PositionsandStudies/CONCORD-EU-aid-briefing-dec09-PDF.pdf

Concord (2010b) "Summary analysis of the Foreign Affairs Council meeting Conclusions". Available online (10.10.2010) URL: http://www.concordeurope.org/Files/media/0_internetdocumentsENG/4_Publications/3_CONCORDs_positions_and_studies/Positions2010/Concord-Analysis-of-FAC-conclusions-14-06-10.doc

DAC (2001) "The DAC Guidelines for Poverty Reduction". Available online (10.10.2010) URL: http://www.oecd.org/dataoecd/47/14/2672735.pdf

DAC (2010a) *About DAC*. (07.04.10) URL: http://www.oecd.org/about/0,3347,en_26-49_33721_1_1_1_1_1,00.html

DAC (2010b) *DAC Database*. (07.04.10) URL: www.oecd.org/dac/stats/data

Dreher, Axel, Peter Nunnenkamp and Rainer Thiele (2008) "Does US aid buy UN general assembly votes? A disaggregated analysis", *Public Choice* 136: 139-164.

Dudley, Leonard (1979) "Foreign Aid and the Theory of Alliances", *The Review of Economics and Statistics* 61 (4): 564-571.

Economist, the (2010) "The Beijing Consensus is to keep quiet", The Economist, 5. May 2010.

Elster, Jon (1989) *Solomonic judgements. Studies in the Limitations of Rationality*. Cambridge: Cambridge University Press.

EU (2003) "Towards the full integration of cooperation with ACP countries in the EU budget". Communication from the Commission to the Council and the European Parliament (COM(2003)590).

EU (2005) "EU Strategy for Africa: Towards a Euro-African pact to accelerate Africa's development". Communication from the Commission to the Council and the European Parliament. Available online (10.10.2010) URL: http://eurlex.europa.eu/LexUriServ/LexUriServ.do?uri=COM:2005:0489:FIN:EN:PDF

EU (2006) "The European Consensus on Development". Joint statement by the Council, the European Parliament and the Commission (2006/C46/01). Available online (10.10.2010) URL: http://ec.europa.eu/development/icenter/repository/european_consensus_2005_en.pdf

EU (2010) "Financing for Development – Annual progress report 2010. Getting back on track to reach the EU 2015 target on ODA spending?" Commission staff working document (SEC (2010) 420). Available online (10.10.2010) URL: http://eurlex.europa.eu/LexUriServ/LexUriServ.do?uri=SEC:2010:0420:FIN:EN:PDF

Faria, Fernanda and Andrea Koulaïmah-Gabriel (1998) "Budgetisation of the European Development Fund: Issues, Implications, Opportunities". Maastricht: ECDPM.

Fuhrer, Helmut (1994) "The Story of Official Development Finance: A History of the Development Assistance Committee and the Development Co-operation Directorate in Dates and Figures". OECD: Paris.

Gates, Scott and Briand D. Humes (1997) *Games, Information and Politics: Applying Game Theoretic Models to Political Science*. Ann Arbor: University of Michigan Press.

Grimm, Sven (2006) "EU Development Cooperation: Rebuilding a tanker at sea". FES Briefing Paper. Berlin: FES.

Grimm, Sven and Adele Harmer (2005) "Aid donorship in Central Europe". Humanitarian Policy Group Background Paper in the paper series *Diversity in donorship: the changing landscape of official humanitarian aid*. London: Overseas Development Institute.

Grimm, Sven, John Humphrey, Erik Lundsgaarde and Sarah-Lea John de Souza (2009) "Challenges by New Actors in International Development". Working Paper in the programme *European Development Cooperation to 2020*. Bonn: EDC2020.

Gibson, Clark C., Krister Andersson, Elinor Ostrom and Sujai Shivakumar (2005) *The Samaritan's Dilemma. The political Economy of Development Aid*. Oxford University Press: New York.

Giovanetti, Giorgia (2009) "Overcoming fragility in Sub-Saharan Africa". (09.04.2010) URL: http://www.voxeu.org/index.php?q=node/4171

Hayashi, Masayoshi (2002) "How Do Nations Behave? The Case of National Contributions to Multilateral Foreign Aid". Working paper. Available online (10.10.2010) URL: http://www.meijigakuin.ac.jp/~hayashim/Works/mfa.PDF

Hirvonen, Pekka (2005) "Stingy Samaritans. Why Recent Increases in Development Aid Fail to Help the Poor". Washington D.C: Global Policy Forum. (05.11.2010) URL: http://globalpolicy.org/component/content/article/240/45056.html#1

Hoebink, Paul (2010) *European Development Cooperation: In Between the Local and the Global*. Amsterdam: Amsterdam University Press.

Hoebink, Paul and Olav Stokke (2005) *Perspectives on European Development Cooperation: Policy and performance of individual donor countries and the EU*. London: Routledge.

Hovi, Jon (1986) "Binary Games as Models of Public Goods Provision", *Scandinavian Political Studies* 9 (4): 337-359.

Hovi, Jon (1998) *Games, Threats and Treaties: Understanding Commitments in International Relations*. London: Pinter.

Hovi, Jon (2008) *Spillteori: En innføring*. Oslo: Universitetsforlaget.

Hovi, Jon and Bjørn Erik Rasch (1996) *Samfunnsvitenskapelige analyseprinsipper*. Bergen: Fagbokforlaget.

Hovi, Jon and Ivar Areklett (2004) "Enforcing the Climate Regime: Game Theory and the Marrakesh Accords", *International Environmental Agreements: Politics, Law and Economics* 4: 1-26.

Inter Press Service (2005) "Development: EU to Increase Aid". (09.04.2010) URL: http://ipsnews.net/new_nota.asp?idnews=28801

Jayaraman, Rajshri and Ravi Kanbur (1999) "International Public Goods and the Case for Foreign aid", in Inge Kaul, Isabelle Grunberg and Marc A. Stern (Ed.) *Global Public Goods – Cooperation in the 21st Century*. New York: Oxford University Press.

Kanbur, Ravi (2006) "The Economics of International Aid", chapter 26 in Serge-Christophe Kolm and Jean Mercier Ythier (Ed.): *Handbook of theEconomics of Giving, Altruism, and Reciprocity. Volume 2.*Oxford: Elsevier.

Kuramoto, Yukiko (2007) "Japan's Foreign Aid Policy as a Vital Foreign Policy: Did Japan Achieve Its National Interests?". Working paper. Miami: University of Miami.

Lumsdaine, David H. (1993) *Moral Vision in International Politics. The Foreign Aid Regime, 1949-1989*. Princeton, NJ: Princeton University Press.

McArthur, John W. (2005) "The 0.7% solution", The New York Times 25. February 2005.

McGillivray, Mark (2003) "Aid Effectiveness and Selectivity: Integrating Multiple Objectives into Aid Allocations", *Aid Effectiveness and Selectivity: DAC Journal*: 23-36.

Milner, Helen V. (2004) "Formal Models and International Political Economy", chapter 11 in Detle F. Sprinz and Yael Wolinsky-Nahmias (Ed.) *Models, Numbers & Cases: Methods for Studying International Relations*. Ann Arbor: University of Michigan Press.

Morgenthau, Hans (1962) "A Political Theory of Foreign Aid", *The American Political Science Review* 56 (2): 301-309.

Mosley, Paul (1985) "The Political Economy of Foreign Aid: A Model of the Market for a Public Good", *Economic Development and Cultural Change* 33 (2): 373-393.

Moyo, Dambisa (2009) *Dead Aid. Why Aid is Not Working and How There is Another Way for Africa*. London: Penguin.

Newsweek (2009) "A Timeline of U.S. Aid to Pakistan" Newsweek.com, 21. October 2009. (20.05.10) URL: http://www.newsweek.com/id/218932

New York Times (2009) "Urging Freedoms, Obama Chides Zimbabwe Leader", New York Times, 12. June 2009.

Olsen, Mancur and Richard Zeckhauser (1966) "An Economic Theory of Alliances", *The Review of Economics and Statistics* 48 (3): 266-279.

Palmer, Glenn, Scott B. Wohlander and T. Clifton Morgan (2002) "Give Or Take: Foreign Aid and Foreign Policy Substitutability", *Journal of Peace Research* 39: 5-26.

Regjeringen.no (2009) "Norway will increase aid to Zimbabwe". (20.05.10) URL: http://www.regjeringen.no/se/dep/smk/pressesenter/pressemeldinger/2009/norway-will-increase-aid-to-zimbabwe.html?id=566726

Reuters (2010) "Zimbabwe struggles to attract foreign aid". (21.05.10) URL: http://www.alertnet.org/thenews/newsdesk/LDE62A204.htm

Riddell, Roger (2007) *Does Foreign Aid Really Work?* Oxford University Press: New York.

Rogerson, Andrew, Adrian Hewitt and David Waldenberg (2004) "The International Aid System 2005-2010: Forces For and Against Change". Working Paper 235. London: Overseas Development Institute.

Round, Jeffery and Matthew Odedokun (2004) "Aid Effort and Its Determinants", *International Review of Economics and Finance* 13: 293-309.

Sachs, Jeffrey (2005) *The End of Poverty: Economic Possibilities For our Time*. London: Penguin.

Granell, Francesc (2005) "Can the Fifth Enlargement Weaken the EU's Development Cooperation?", *Jean Monnet/Robert Schuman Paper Series* 5 (24): 1-17.

Seiglie, Cato (1999) "Altruism, Foreign Aid and Humanitarian Military Intervention", *Conflict Management and Peace Science* 17: 207-23.

Schmitz, Hans Peter (1999) "Transnational activism and political change in Kenya and Uganda", chapter 2 in Thomas Risse, Stephen C. Ropp and Kathryn Sikkink (Ed.) *The Power of Human Rights: International Norms and Domestic Change*. Cambridge: Cambridge University Press.

Snidal, Duncan (2004) "Formal Models of International Politics", chapter 10 in Detlef F. Sprinz and Yael Wolinsky-Nahmias (Ed.) *Models, Numbers and Cases. Methods for Studying International Relations*. Ann Arbor: University of Michigan Press.

Stokke, Olav (1995) "Aid and Political Conditionality: Core Issues and State of the Art", chapter 1 in Olav Stokke (Ed.) *Aid and Political Conditionality*. London: Frank Cass.

Stokke, Olav (2009) *The UN and Development. From Aid to Cooperation*. Bloomington, USA: Indiana University Press.

Svensson, Jakob (2000) "When is Foreign Aid Policy Credible? Aid Dependence and Conditionality", *Journal of Development Economics* 61: 61-84.

Svensson, Jakob (2003) "Why Conditional Aid Does Not Work and What Can be Done About it?", *Journal of Development Economics* 70: 381-402.

Temple, Jonathan R. W. (2010) "Aid and Conditionality", chap. 67 in Dani Rodrik and Mark Rosenzweig (Ed.) *Handbook of Development Economics Volume 5*. Oxford: Elsevier.

TRIALOG (2009) "Difficult Times for Development Aid". TRIALOG paper. Available online (10.10.2010) URL: http://www.trialog.or.at/images/doku/nms-aidwatch-oct2009.pdf

UN (2002) "The Monterrey Consensus", Report of the International Conference on Financing for Development, Monterrey, Mexico, 18-22 March 2002.

UN (2008) "Doha Declaration on Financing for Development", Report of the Follow-up International Conference on Financing for Development to Review the Implementation of the Monterrey Consensus, 29 November -2 December 2008.

UN (2010) "Keeping the promise: united to achieve the Millennium Development Goals". Resolution of the High-level Plenary Meeting of the General Assembly, New York, US, 20 – 22. September 2010.

UNDATA (2009) *DAC Database*. Adapted by UNDATA. (20.10.09) URL: http://data.un.org/Browse.aspx?d=MDG

UN Millennium Project (2006) *The 0.7% target: An in-depth look*. (16.03.2010) URL: http://www.unmillenniumproject.org/press/07.htm.

UNSTAT (2010) *Standard Country and Area Codes Classification*. (05.11.2010) URL: http://unstats.un.org/unsd/methods/m49/m49regin.htm#ftnc

US Congress (2003) "US Leadership Against HIV/AIDS, Tuberculosis and Malaria Act of 2003" Available online (26.02.2010) URL: http://frwebgate.access.gpo.gov/cgi-bin/getdoc.cgi dbname=108_cong_public_laws&docid=f:publ025.108.pdf

Waller, Peter P. (1995) "Aid and Conditionality: The Case of Germany, with Particular Reference to Kenya", chapter 3 in Olav Stokke (Ed.) *Aid and Political Conditionality*. London: Frank Cass.

Wall Street Journal (2005) "Brazil Refuses U.S. AIDS Funds, Rejects Conditions", Wall Street Journal, 2. May 2005.

Washington Post (2005) "U.S. Backs Off Stipulation on AIDS Funds", Washington Post, 18. May 2005.

WHO.int (2010) *Zimbabwe*. (23.05.10) URL: http://www.who.int/countries/zwe/en/

World Bank (2000) "Trends in Official Finance", chapter 3 in *Global Development Finance 2000*. Washington D.C: World Bank.

World Bank.org (2003) *Pages from World Bank History: The Pearson Commission.* (16.04.2010) URL:

http://web.worldbank.org/WBSITE/EXTERNAL/EXTABOUTUS/EXTARCHIVES/0,,contentMDK:20121526~pagePK:36726~piPK:36092~theSitePK:29506,00.html

Word Bank (2010). *World Bank Data*. URL: http://data.worldbank.org/

Yasutomo, Dennis T. (1989) “Why Aid? Japan as an "Aid Great Power"”, *Pacific Affairs* 62: 490-50

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Torbjørn Gaustadsæther, *Special Advisor at the Section for Development Policy at the Norwegian Ministry of Foreign Affairs*. Interviewed on 12.05.2010.